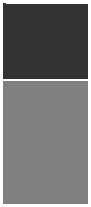

DSView® 3.0

Software Installer/User Guide

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CHAPTER 1

Product Overview

About the DSView 3.0 Management Software

The DSView® 3.0 software is a secure, web browser based, centralized enterprise management solution that allows DSView users to remotely access, manage, monitor and control target devices through the following types of Avocent managed appliances:

- DSR™ switches
- CPS serial over IP network appliances

Other managed appliances (EVR1500 environmental monitor and control appliances and generic appliances), Cascade switches and SPC power control devices may also be included, viewed and controlled in the DSView software. A session may be launched to a target device with a single point of access.

A DSView Administrator may specify DSView users and their access levels for commands within the system, as well as group them in various ways.

Features and Benefits

Network rebooting and troubleshooting

The DSView software uses industry standard IP connections so that you can easily troubleshoot, or even reboot a server, from the Network Operations Center (NOC), from your desk or from any location in the world. With the DSView software, you can access all of your data center devices from a single screen - making complex network access and control remarkably easy.

Web-based access and control

The DSView software provides secure “point-and-click” web browser based access to control virtually any data center device using DSR switches and CPS appliances from DSView Clients that may be located anywhere in the world.

The DSView software supports Microsoft® Internet Explorer version 6.0 SP1 and later.

NOTE: It is recommended that Microsoft Internet Explorer is kept up to date with the latest updates from Microsoft.

A Video Viewer window allows you to control the keyboard, monitor and mouse functions of individual target devices connected to a DSR switch in real time. You may also use predefined global macros to perform actions within the Video Viewer window, or create new macros within the window for the device. The Video Viewer window may be launched by clicking *KVM Session* in a DSView 3.0 Explorer Unit Views window for any target device, or clicking *KVM Session* or *Exclusive KVM Session* (none-shared) in the Unit Overview window for the target device.

Devices connected to a CPS appliance may be accessed using a Telnet/SSH applet window.

Secure authentication and communication

Secure Socket Layer (SSL) encryption may be used to encrypt data traveling within the DSView system. DSView users may be authenticated using the DSView Server internal database, or using a Lightweight Directory Assistance Protocol (LDAP), Active Directory® or Windows NT® domain external authentication server.

Creating and managing user permissions

The DSView software provides centralized network access, control and security for managed appliances. A DSView Administrator may add, remove, delete and modify managed appliances and target devices, including assigning permissions and per-device contact information, which are stored on the DSView Server. A DSView Administrator may also assign unique permissions which allow individual DSView users or a group of DSView users access to units.

DSView users may be authenticated using the local DSView internal database or by an external server.

Proxy server access

The DSView software also contains a proxy server feature that allows KVM and Serial Sessions to be proxied through the DSView Server. When a session is initiated with a target device, the Video Viewer communicates using the Avocent Proxy Protocol (APP) and the DSView Server makes a direct connection to the appliance. See *Hub DSView Server Properties* on page 56 for information on specifying a proxy server.

DSView System Components

The following components comprise a DSView system:

DSView software

The DSView software resides on the DSView Server (host computer) and provides a web gateway and services for managing units (managed appliances and target devices) using a web browser. The gateway allows for IP-based video, serial management, Telnet SSH applet or web browser sessions.

DSView users may connect to the DSView Server from DSView Clients and use the DSView 3.0 Explorer window to communicate with the system.

DSView Server

A DSView Server is the computer on which the DSView software is installed. The DSView Server provides a central repository for the following information:

- Centralized authentication
- Access control
- Auditing
- Monitoring
- License management
- DSView Client/appliance updates

DSView users may specify a Spoke (backup) DSView Server in addition to the Hub DSView Server.

DSView Client

A DSView Client is a computer with an Internet Explorer version 6.0 SP1 or later web browser that may access the DSView software installed on the DSView Server. A DSView user may access and administer the DSView Server, units and cascade devices using the DSView Client.

Managed appliances

Managed appliances are DSR switches and CPS appliances that provide KVM and Serial Over IP connectivity to a wide range of target devices, EVR1500 environmental monitors and generic appliances.

Target devices

Target devices encompass a wide range of data center components such as servers and routers that a DSView Administrator may manage virtually through the DSView system. A target device may be attached to a DSR switch or CPS appliance and is added automatically to your DSView system when the DSR switch or CPS appliance is added, or added individually when not attached to a DSR switch or CPS appliance.

Cascade devices

A cascade device is connected between a DSR switch or CPS appliance and a target device, or directly to the DSR switch or CPS appliance. Examples of cascade devices are AutoView® cascade switches, Outlook® cascade switches and SPC devices.

External authentication server (optional)

The External authentication server is a third-party product that may be configured for use within your DSView system. The external authentication server provides an authentication service that enables the DSView Server to broker authentication requests from DSView users for access to the DSView System.

SNMP manager (optional)

The SNMP manager is a third-party product that may be configured for use within your DSView system. The SNMP manager monitors DSR switches and CPS appliances and receives SNMP traps from the DSView software on the DSView Server.

An example of an SNMP manager is the HP OpenView product.

Appliances Supported by the DSView Software

The following appliances may be controlled and managed using the DSView software:

Managed appliances

A managed appliance may provide KVM and serial over IP connectivity to target devices. The DSView software supports the following types of managed appliances that support this connectivity:

- CPS appliances
- DSR switches

Managed appliances also include the following:

- EVR1500 environmental monitors
- Generic appliances

CPS appliances

CPS appliances allow DSView users to access serially attached devices over a standard TCP/IP connection using a Telnet/SSH applet. The DSView Server discovers CPS appliances on the DSView system.

The DSView software supports the following CPS appliances:

- CPS810
- CPS1610

DSView Clients communicate with target device serial ports using a Telnet SSH connection between the DSView Client and the CPS. The CPS converts the Telnet data to a serial stream, which is then sent to the Target Device.

For management functions, the DSView Client sends a HTTPS request to the DSView Server, which then sends a command to the CPS appliance. The CPS appliance then performs the requested management function.

CPS appliances also supports the ability to connect an SPC devices to serial ports to power control target devices.

DSR switches

A DSR switch is a managed appliance that allows KVM signals to be transmitted over a standard TCP/IP network connection. DSR switches may alternately be connected using a modem, which provides benefits for branch offices such as low cost and dial-up performance. The DSView Server discovers DSR switches on the DSView system.

The DSView software supports the following DSR switches:

- DSR1021
- DSR1022
- DSR1024
- DSR1020
- DSR2020
- DSR4020

A target device is first attached to DSRIQ module, which is then attached to a DSR switch. A DSRIQ module converts KVM signals to Application Data Protocol (ADP) packets that are sent between the DSRIQ and the DSR.

DSView Clients communicate with target devices ports using a Video Viewer connection between the DSView Client and the DSR switch. The DSR switch converts packets received from the Video Viewer into packets that are sent and may be read by a DSRIQ module. The DSRIQ module then converts the data to KVM signals that are sent to target devices.

For management functions, the DSView Client sends a HTTPS request to the DSView Server, which then sends a command to the DSR switch. The DSR switch then performs the requested management function.

DSR switches also support the ability to cascade AutoView and Outlook legacy analog KVM switches and to connect an SPC device to power control target devices.

EVR1500 environmental monitors

The EVR1500 environmental monitor is a product that may be added to your DSView system. DSView Clients communicate with the EVR1500 environmental monitor using a standard web browser connection between the DSView Client and a DSR switch.

Generic appliances

A generic appliances is used to manage datacenter devices, such as routers. These devices may be managed within a DSView system by launching a standard web browser to the device URL, or by opening a Telnet session.

Cascade switches

DSR switches allow the cascading of legacy analog KVM switches from DSR switch ports, which may be managed in a DSView system.

The following legacy KVM switches are supported by the DSView software:

- AutoView 200-4, 200-8, 400-4, 400-8, 416, 424 and 2000-AM switches

NOTE: AutoView switches must be FLASH upgraded to be added to a DSView system.

- Outlook 140ES, 180ES, 280ES, 1160ES, 2160ES and 4160ES switches

NOTE: PEM cascade devices are not supported in the DSView software.

SPC devices

An SPC device is a power control strip of outlets that may be cascaded off of a CPS appliance serial port or connected to the SPC port of a DSR switch.

One or more CPS appliance serial ports may be attached to SPC power strips. When a DSView Client sends a power control request to a target device, a HTTPS request is sent to the DSView Server, which then sends a command to the CPS. The command is converted and serially sent to the SPC device. The SPC then turns the appropriate power outlet on or off.

The following figure illustrates an example system configuration using the DSView software. For more information on how the DSView software works within a system, see *TCP Ports* on page 426.

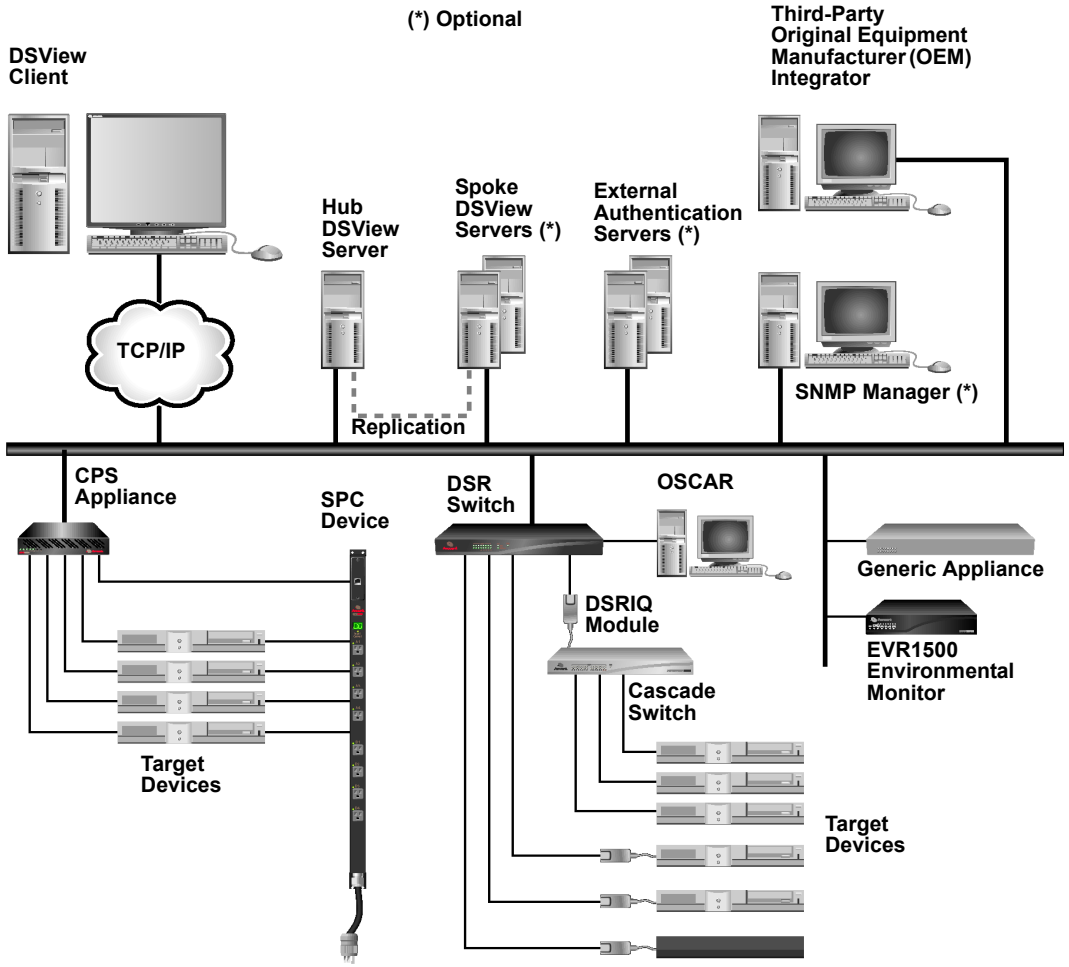


Figure 1.1: Example System Configuration Using the DSView Software

Overview: Working with the DSView Software

About the DSView 3.0 Explorer

The DSView software resides on a host computer. A DSView Client, which is a PC with Internet Explorer version 6.0 SP1 or later installed, may access the software by entering the web address of the DSView software host.

When the DSView User has been logged in and authenticated, the Avocent DSView 3.0 Explorer appears. The DSView 3.0 Explorer is the window used by DSView user to interface with the DSView software and allows DSView users to view, access, manage and create custom groupings for all of the supported managed appliances in the data center. The window may also be used to specify system settings, view report information and modify profile settings.

Window features

Figure 1.2 show the DSView 3.0 Explorer window areas, and descriptions follow in Table 1.1

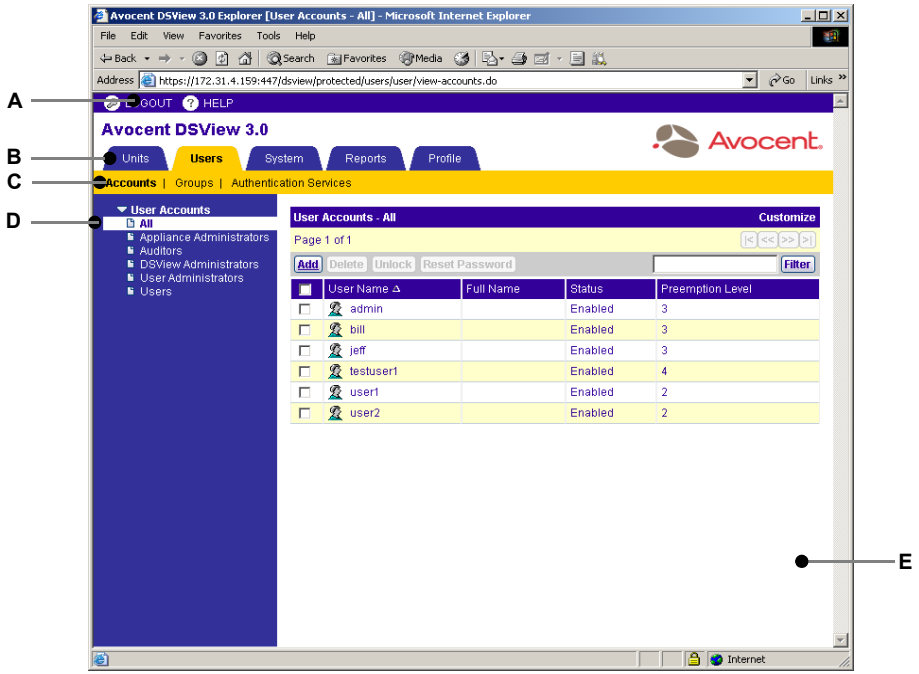


Figure 1.2: DSView 3.0 Explorer Window

Table 1.1: DSView 3.0 Explorer Window Area Descriptions

Letter	Description
A	Top Option Bar - Use the Top Option Bar to log out of a DSView software session or access online help.
B	Tab Bar - Use the Tab Bar to view and manage units, DSView users, reports, system settings and user profiles.
C	Top Navigation Bar - The selections in the Top Navigation Bar vary, depending on the active tab in the Tab Bar. These options display in the Side Navigation Bar.
D	Side Navigation Bar - Use the Side Navigation Bar to display the DSView system information you wish to view or edit, which displays in the Content Area.
E	Content Area - Use the Content Area to view or make changes to your DSView system.

Accessing units

Accessing target devices with a DSR switch or CPS appliance is accomplished through the DSView software. All host PCs and serial devices that may be accessed system-wide are displayed in a Unit Views window in the DSView 3.0 Explorer window.

The four link types listed in Table 1.2 are used in the DSView software to display a target device connected to a DSR switch or CPS appliance, or to display a generic appliance or EVR1500 environmental monitor.

Table 1.2: DSView 3.0 Explorer Window Links

Clicking this link...	That is associated with...	Displays...
Browser Session	EVR1500 environmental monitors, generic appliances and target devices attached to DSR switch or CPS appliance channels or ports	Web browser
Telnet Session	EVR1500 environmental monitors, generic appliances and target devices attached to DSR switch or CPS appliance channels or ports	Telnet/SSH applet window
Serial Session	Target devices attached to a CPS appliance serial port	Telnet/SSH applet window
KVM Session	Target devices attached to a DSR switch channels or ports	Video Viewer window

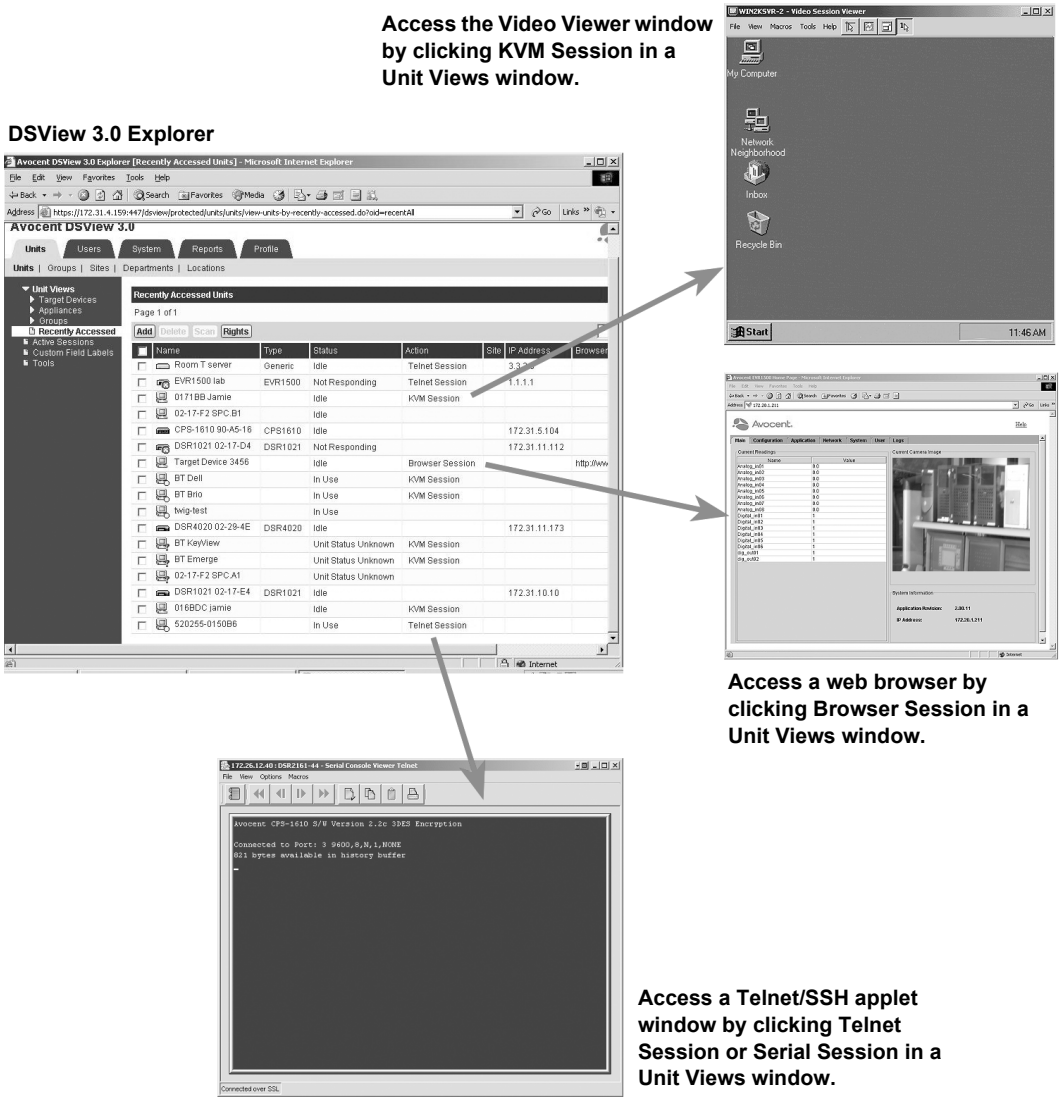

Access the Video Viewer window by clicking KVM Session in a Unit Views window.
DSView 3.0 Explorer
Access a web browser by clicking Browser Session in a Unit Views window.
Access a Telnet/SSH applet window by clicking Telnet Session or Serial Session in a Unit Views window.

Figure 1.3: Launching DSView Software Sessions

You may also connect to a target device attached to a DSR switch in either a normal (shared) or exclusive (private) KVM DSView session using the Unit Overviews window. See *Modifying unit overview information* on page 147 for more information.

Configuring units

Units may be configured in the DSView 3.0 Explorer by clicking *Units* in the tab bar and then clicking on a unit name in the Unit Views window. When you click on a unit's name, the following occurs:

- The Unit Overview window will appear
- The name of the unit will appear at the top of the side navigation bar.
- Links will appear in the side navigation bar that enable you to configure your unit.

See *Managing Units* on page 147 for more information.

Unit icons

By default, DSView Administrators and Appliance Administrators may edit unit settings, including which icon is associated with a target device.

The icon associated with the target device will appear to the left of the name in a Target Devices window. See *Modifying unit overview information* on page 147 for more information.

The icons associated with managed appliances are predefined and may not the modified. These icons are listed in Figure 1.3.

Table 1.3: Managed Appliance Icons

Icon	Description
	CPS appliance
	DSR switch
	EVR1500 environmental monitor
	Generic appliance

Sorting Information in a DSView Software Window

The order of rows in a list displayed in a DSView 3.0 Explorer window may be changed by clicking the heading of one of the displayed columns. When you click a column heading, the order of the list rows will change to alphabetically ascending, based on the column. If you click the column heading a second time, the order will change to an alphabetically descending order. In Figure 1.4, the items are sorted by the Name column in ascending order.

Figure 1.4: List Sort Example

Filtering Information in a DSView Software Window

Some DSView software windows allow you to filter list information by providing a text string that will be used to retrieve matching items. Filtering is especially useful if you have a lengthy list of target devices or other items that extend over many pages. Windows that allow filtering contain a field and Filter button in the upper right portion of the window, as shown in Figure 1.5.

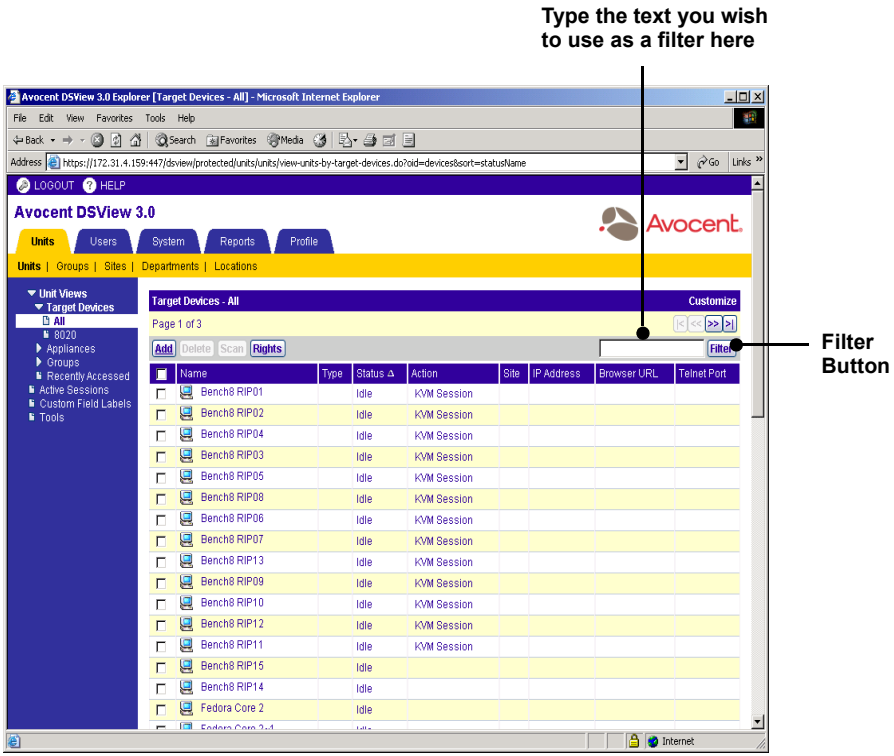


Figure 1.5: Filtering Information in a Window

Filtering is performed over the entire list of items, not just those displayed in the current window, and provides a shorter, more exact list of items. When filtering is performed, the text in every row and column in the window is searched for the specified text string. For example, you may wish to perform filtering to list only DSR1021 appliances in the Name column, target devices with KVM connections in the Action column, CPS appliances that are idle in the Status column and so on.

While filtering, you may use an asterisk (*) before and/or after text strings as a wildcard. For example, typing **emailserver*** and clicking *Filter* will display items with emailserver at the beginning (emailserver, emailserverbackup and so on). Typing ***emailserver** and clicking *Filter* will display items ending with emailserver (obsolete_emailserver, betaemailserver and so on). Typing ***emailserver*** and clicking *Filter* will display items containing emailserver in any part of the name (emailserver, emailserverstore, tdemailserver, tdemailserver1, newemailserver and so on.

Table 1.4 lists the various methods that may be used to filter information, where <String>, <String1> and <String2> is a string of text.

NOTE: Searches are non case sensitive.

Table 1.4: Filter Field Text Strings

Typed in the Filter Field	Results
<String>	Displays a filtered list of items that contain the word specified. For example, typing “email” would list any items that contain the word “email”.
“<String>”	Displays a filtered list of items containing the exact phrase, including spacing and punctuation, surrounded by quotation marks. For example, typing “**email server”** will display items that contain the phrase, “email server”. **NOTE:** The DSView software will provide a closing quotation mark if it is omitted.
(<String>)	Overrides the default (that is, left to right) order of precedence during evaluation of a filter string using parenthesis (). For example, searching for email or Email and server or service would be the equivalent of (((email or Email) and server) or service), which may not be the intended search. The DSView user may choose to instead group the search terms with parenthesis, such as using (email or Email) and (server or service).
<String1> AND <String2>	Displays the items that contain both of the stings of text. For example, typing email AND server will display items named email-server-3, email-server-2, server email and so on.
<String1> OR <String2>	Displays all items that contain at least one of the strings of text. For example, typing email OR server will find any items that contain the string email or the exact string server.
NOT <String>	**Displays all items that do not contain the string of text. For example, typing NOT email will display all items except those containing email (email, email server, email-server-1 and so on will not display).**

To filter the list in the current window:

1. From a window containing a Filter field, type a text string in the field.
2. Click *Filter*. A filtered list of the information in the window will appear.

To return to a non-filtered list in the window:

1. Click *Clear*.

Saving Information in a DSView Software Window

When you modify information in a DSView 3.0 Explorer window, you must click *Save* in order to apply the changes. A message box will appear if you click *Close* or try to exit the window by clicking a link in the top bar, top navigation bar or side navigation bar without first clicking *Save*.

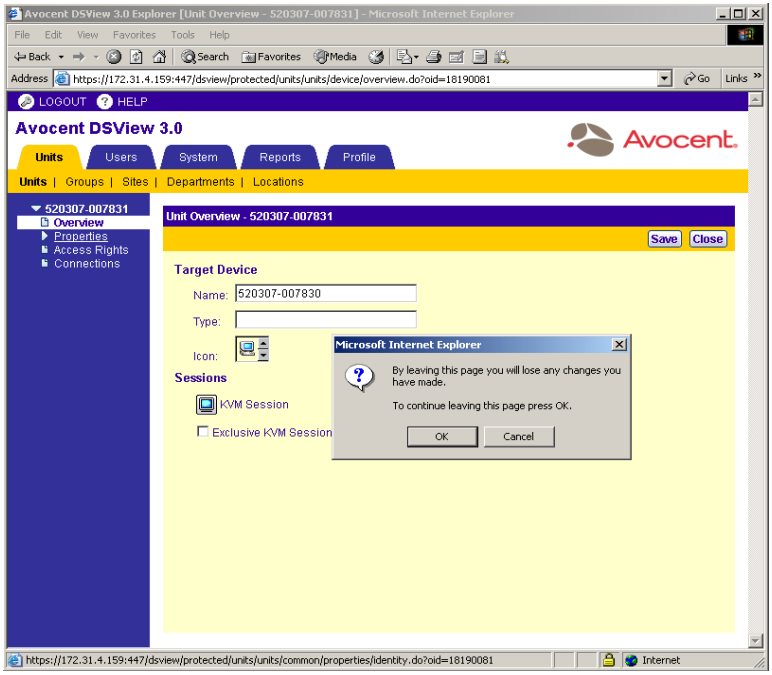


Figure 1.6: Unsaved Window Example

Clicking *OK* in the message box will exit the current window without saving the changes. If you wish to save the changes you have made, click *Cancel* in the message box and then click *Save* in the window.

Using the Customize Link in DSView Software Windows

DSView 3.0 Explorer windows that contain a Customize link allow you to customize the following information:

- Which columns of information are displayed or not displayed
- The number of items displayed per page of the window you are customizing
- Showing units that have been hidden (Unit Views windows only)

To customize a window containing a Customize link, click *Customize* in the upper right corner of the window to display a View Customization window that you may modify. The items available for customizing and methods for modifying them will vary, depending on the window you choose to customize.

Although the types of items that appear in View Customization windows may vary, the items that do appear are modified identically regardless of the window from which you clicked the Customize link.

To customize a window using the Customize link:

1. In a window containing a Customize link in the upper right corner, click the link. A View Customization window will appear. For example, Figure 1.7 contains the items that will appear when you select *Units* in the tab bar, *Units* in the top navigation bar, *Unit Views Recently Accessed* in the side navigation bar and *Customize* in the Units - Recently Accessed window.

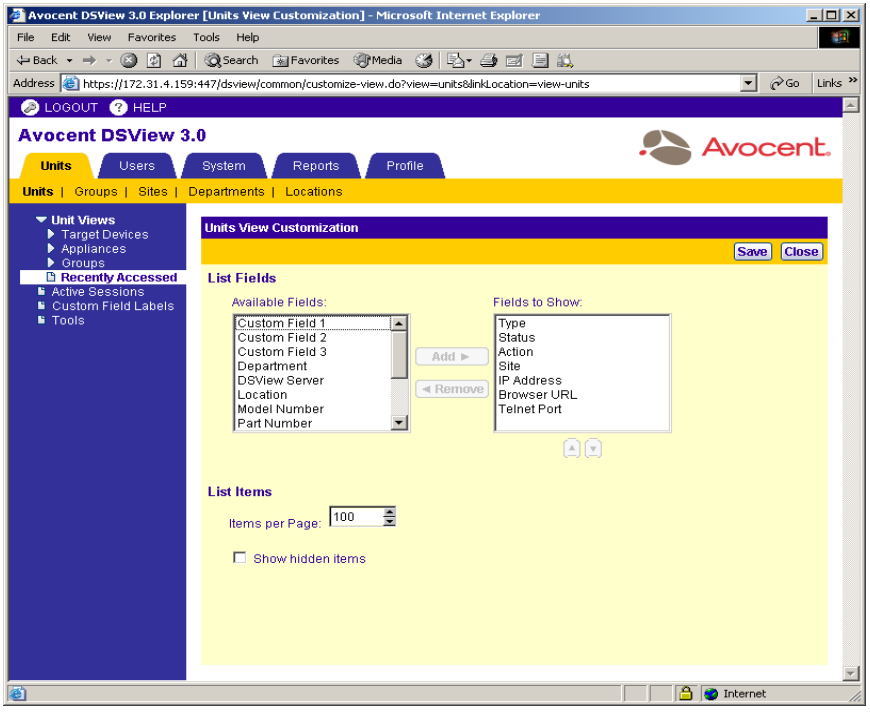


Figure 1.7: Customize Window Example (Units - Recently Accessed)

2. Customize the window so that it will appear as you wish.

NOTE: The items you may modify will vary, depending on the window you have chosen to customize.

To add a field to the display of a window:

a. Select the field in the Available Fields list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.

b. Click *Add*. The column(s) will be moved to the Fields to Show list.

To change the order that fields display from left to right in the window:

a. Select a field in the Fields to Show list.

b. Use the up or down arrow to change its order in the list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.

To remove a field from the display of the window:

- Select the field you wish to remove from the Fields to Show list. Multiple fields may be selected by pressing **Ctrl** or **Shift** while clicking on the field names.
- Click *Remove*. The field(s) will be moved to the Available Fields list.

To specify the number of items that appear in a window:

a. Use the arrow keys to specify a number.

-or-

Type a number in the Items per page field.

To show hidden items in a window:

a. Click *Show hidden items*.

b. Select the *Visibility* column from the Available Fields list and click *Add* to move Visibility to the Fields to Show list.

3. Click *Save* when you are finished.
4. Click *Finish*. The window being customized will reappear with the customizations.

Viewing Pages

Many of the windows in the DSView 3.0 Explorer contain navigation buttons which may be used to quickly access other pages of data. Table 1.5 describes the navigation buttons.

Table 1.5: DSView 3.0 Explorer Navigation Buttons

Button	Description
	First Page - Navigates to the beginning of a list displayed in a window.
	Previous Page - Navigates to the previous page of a list displayed in a window.
	Next Page - Navigates to the next page of a list displayed in a window.
	Last Page - Navigates to the end of a list displayed in a window.

The number of items that display in a window is specified by clicking the *Customize* link and typing or choosing a number in the Items per page field. For example, if you have 1000 target devices and the Items per page customization has been set to 10, you will have 100 pages containing 10 target devices each. If you are on the first page of the list and wish to go to a target device on the third page, you would click the *Next Page* button twice. The current page and total number of pages will appear in the top left corner of the window.

When you are on the first page of units, the First Page and Previous Page buttons will be disabled. When you are on the last page of units, the buttons will be disabled. In Figure 1.8, the First Page and Previous Page buttons are disabled because the first page of units is displayed.

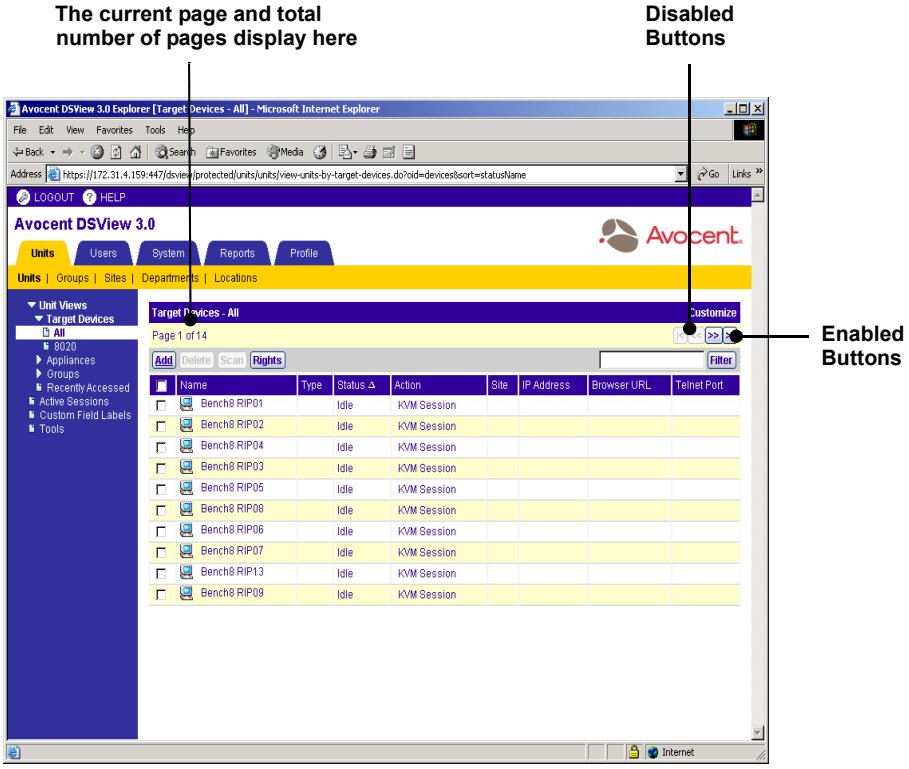


Figure 1.8: Viewing Pages in a Window

The navigation buttons are enabled only if there are enough pages available to make them necessary. For example, if you have eight target devices and the Items per page customization is set to 10 items per page, no navigation buttons will be enabled. If you change the Items per page setting to 4, the First Page and Last Page buttons will be enabled (4 target devices on the first and last pages). Finally, if you change the Items per page setting to 2, all navigation buttons will be enabled (2 target devices per page).

User Groups

The user group to which a DSView user belongs determines the actions the user may perform during a DSView software session. A DSView user may be assigned to any of the following five built-in user groups when they are added to the DSView system:

- DSView Administrators
- Appliance Administrators
- Auditors
- User Administrators
- Users

NOTE: Users may also be added to user-defined user groups.

Table 1.6 lists the operations that may or may not be performed by DSView Users that are members of a particular user group.

Table 1.6: DSView Software Built-in User Groups and Allowed Operations

Operations	Built-in User Groups				
	DSView Administrators	**User Administrators**	**Appliance Administrators**	**Auditors**	**Users**
Configure DSView system-level settings	Yes	No	No	No	No
Backup and restore the DSView software database	Yes	No	No	No	No
Register the Spoke DSView Server	Yes	No	No	No	No
Define, view and modify user account custom field labels	Yes	Yes	No	No	No
View, add, modify and delete external authentication servers	Yes	Yes	No	No	No
Configure audit log retention time	Yes	No	No	Yes	No
Configure events that are logged to the audit log	Yes	No	No	Yes	No
View and delete events in and audit log	Yes	No	No	Yes	No
View, add, modify, import and delete DSView user accounts	Yes	Yes	No	No	No

Table 1.6: DSView Software Built-in User Groups and Allowed Operations (Continued)

Operations	Built-in User Groups				
	DSView Administrators	**User Administrators**	**Appliance Administrators**	**Auditors**	**Users**
View DSView user account custom field labels and properties	Yes	Yes	No	No	No
View, add, modify and delete user-defined user groups	Yes	Yes	No	No	No
Reset account passwords	Yes	Yes	No	No	No
Configure the preemption level for an added user group	Yes	Yes	No	No	No
Modify the preemption level for DSView users and user groups	Yes	Yes	No	No	No
View and select external authentication server names	Yes	Yes	No	No	No
View, add, modify and delete unit entries	Yes	No	Yes	No	No
View, add, modify and delete unit groups	Yes	Yes	Yes	No	No
Configure units access control settings	Yes	Yes	No	No	No
Add, modify and delete sites, departments and locations	Yes	No	Yes	No	No
View and select DSView user account names and user group names	Yes	Yes	No	No	No
Change your own password	Yes	Yes	Yes	Yes	Yes
View managed appliances that have one or more access rights including appliance status	Yes	Yes	Yes	No	Yes
View target devices that have one or more access rights including status	Yes	Yes	Yes	No	Yes

User Preemption Levels

The preemption level of a DSView user determines whether or not the they can interrupt or disconnect another DSView user's Serial or Video (KVM) Session with a target device.

DSView Administrators and User Administrators may specify the preemption level for DSView user accounts or user-defined user groups when an account or group is created. The preemption level for DSView users may be changed later by using the User Preemption Level window, or for user-defined groups by using the User Group Properties window. See *Changing the preemption level of DSView users* on page 235 or *Viewing and modifying user group members* on page 339 for more information.

By default, the preemption level used by the DSView software (the effective user preemption level) is the highest level of all of the user groups to which the DSView user belongs. Preemption levels range from 1-4, with 4 having the highest preemption level. For example, a user or a user group with a preemption level of 4 may preempt other level 4 users or user groups, as well as those with a level 1, 2 or 3 setting.

The preemption levels and a description of each appear in Table 1.7:

Table 1.7: DSView User and User Group Preemption Levels

Preemption Level	Description
4	The default preemption level assigned for a new local user of a DSR switch or CPS appliance.
3	The default preemption level assigned to the DSView Administrator and Appliance Administrator user groups by the DSView software.
2	The default preemption level assigned for the User Administrator user group.
1	The default preemption level for the User user group.

There are three preemption levels:

- User preemption level - The preemption level that may be assigned to a DSView user by a DSView Administrator or User Administrator. If this value is larger than the highest preemption level of the user group to which the DSView user belongs, the value will be used as the effective user preemption level.
- Group preemption level - The preemption level that is assigned to user groups to which the DSView user belongs. If the DSView user is assigned to multiple user groups with different preemption levels, this will be the preemption level of the user group with the highest level. For example, if a DSView user belongs to the DSView Administrators (level 3) and Auditors (level 1) user groups, this value will be defined as 3. If this value is larger than the highest preemption level of the DSView user, the value will be used as the effective user preemption level.

The default preemption levels for built-in user groups within the DSView software are listed in Table 1.8.

Table 1.8: Built-In User Group Preemption Levels

User Group	Preemption Level
DSView Administrators	3
Appliance Administrators	3
User Administrators	2
Auditors	1
Users	1

A user-defined user group may be assigned a preemption level of 1-4.

- Effective user preemption level - The largest value between the user and group preemption level. This is the actual preemption level that will be recognized by the DSView software when the DSView user attempts to preempt another DSView user's DSView session. For example, if a DSView user belongs to the Auditors group (level 1) but is assigned a user preemption level of 4, the DSView user will have an effective user preemption level of 4. Even though the DSView user is a member of the Auditors group, they would be able to preempt the DSView session of a DSView user belonging to the DSView Administrators or Appliance Administrators user groups.

A DSView Administrator or User Administrator may also specify an OSCAR preemption level that is applied to DSView users accessing target devices through OSCAR. See *Modifying DSR switch or CPS appliance port settings* on page 174 for more information.

Using Certificates with the DSView Software

The DSView system uses certificates to provide secure transactions between components and to uniquely identify components in the DSView system.

DSView Server certificate

A DSView Server certificate is used to do the following:

- Uniquely identify the DSView Server to DSView Clients connecting to the server using web browsers.
- Uniquely identify the DSView Server to other DSView Servers in a DSView System
- Provide for secure transactions between DSView Clients and the DSView Server.
- Provide for secure transactions between DSView Servers.

By default, a self-signed certificate is created for a DSView Server when the DSView Server is installed that uniquely identifies the DSView Server. The DSView Server certificate may be replaced with a certificate from a Certificate Authority (CA) using the Update DSView Server Certificate Wizard.

DSView Client certificates

DSView Client certificates are used for authentication of DSView Client users during log in. This is an optional feature that may be enabled in DSView. To use DSView Client certificates for authentication, a DSView Administrator must first enable certificate authentication. See *Specifying DSView Client session information* on page 66 for details on enabling DSView client certificate authentication. Once this option is enabled, the DSView Server will prompt the DSView Client web browser to send its user certificates.

NOTE: The DSView Client certificate must first be loaded into the DSView Client web browser and be associated with a DSView User account. See the section *Modifying the certificates associated with DSView users* on page 233 for more information.

Managed appliance certificates

Certificates are also used for authenticating and authorizing managed appliance sessions when a managed appliance is added in Secure mode. See *Adding Units* on page 130 for more information.

Using Integrated Windows® Authentication with the DSView Software

The DSView software allows DSView Clients to authenticate against Microsoft Windows NT domain external authentication servers using Integrated Windows Authentication. This feature allows Single Sign-On (SSO) and is disabled by default.

NOTE: Integrated Windows Authentication cannot be used if the DSView Server name contains periods (.).

In order to use Integrated Windows Authentication for authentication, an DSView Administrator must first enable Integrated Windows Authentication. See *Specifying DSView Client session information* on page 66 for details on enabling Integrated Windows Authentication.

Using the DSView Software with a Firewall

In a typical network configuration, the DSView Client is located outside of the firewall and the DSView Server and managed appliances reside inside the firewall. In this case, the firewall must be configured to allow two TCP/IP ports inside the firewall.

The first TCP port (Default=443) is used for the HTTPS web browser connection between the DSView Client and the DSView Server. The second TCP port (Default=1078) is used for the Avocent Proxy Protocol (Tunnels Video and Telnet traffic). Both ports are configurable.

If you are using the DSView software through a firewall, we recommend the following:

- Place the DSView Server and all managed appliances within the same firewall demilitarized zone (DMZ). If the managed appliances are not in the same DMZ with the DSView Server, you must configure the firewall so all data may pass between the zones using TCP/IP ports 22 (SSH), 3211, 2068, 8192 and 3871. You must also configure the user datagram protocol (UDP) port 3211 so it may pass through the firewall for initial network discovery of appliances that do not have an IP address.

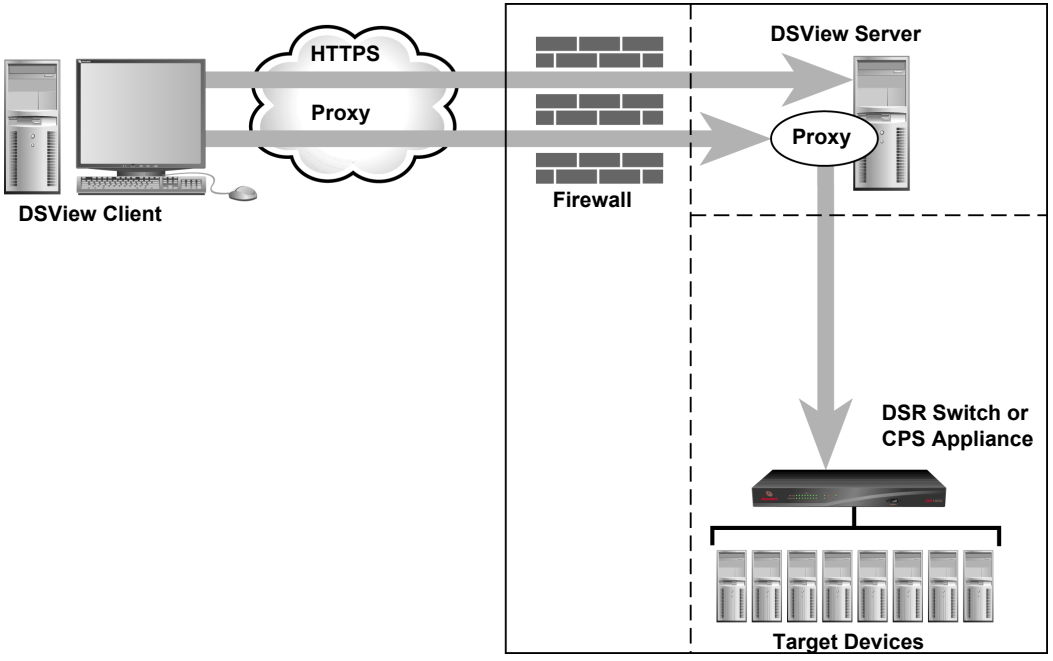


Figure 1.9: Typical DSView System Firewall Configuration

Using the DSView Software with a Virtual Private Network (VPN)

A VPN is a secure private network that uses public infrastructure and typically includes several wide area network (WAN) components which may impact performance of the VPN.

In a typical VPN setup, two sites are connected in a VPN network using WANs and a router. This setup provides a secure network between the two sites, but processing is slow.

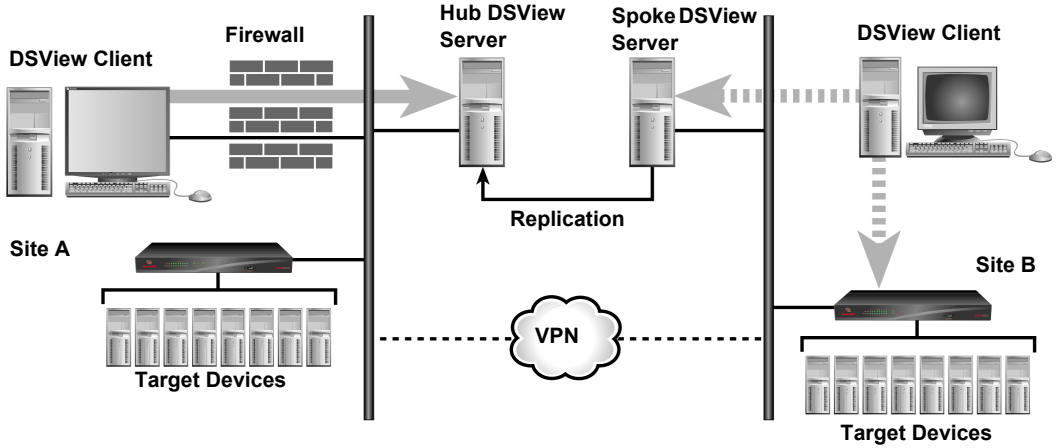


Figure 1.10: DSView System on a VPN

Several factors related to the network setup, including the DSView database replication schedule and methods of device access, can affect the speed of a multi-site VPN network. The tradeoff must be made based on the network setup.

Frequent replication of the DSView database will increase WAN/VPN traffic but provide steady data reception at the local sites. Infrequent database replication made at the various sites decreases the WAN/VPN traffic but delays the reception of changes at the local site.

In addition, the methods used to access devices affects network speed. VPN access of a managed appliance is always slower than local access.

The DSView software supports two types of VPNs: those that provide full transparency for IP addresses and ports between sites are supported by the DSView software as are many VPNs that perform network address translation (NAT) between sites. For example, the VPN in Figure 1.10 could use NAT if Site A and Site B are separate companies that merged but have not resolved their IP addresses. See the following section for more information on NAT.

Using the DSView Software with a NAT Device

NAT devices enable a company to use more internal IP addresses than they have assigned to managed appliances. The IP addresses are not exposed outside of the NAT device.

NAT devices are typically used with a DSL broadband router. A DSView Client is connected to the NAT device, as shown in Figure 1.11, which then connects to the corporate network using a VPN.

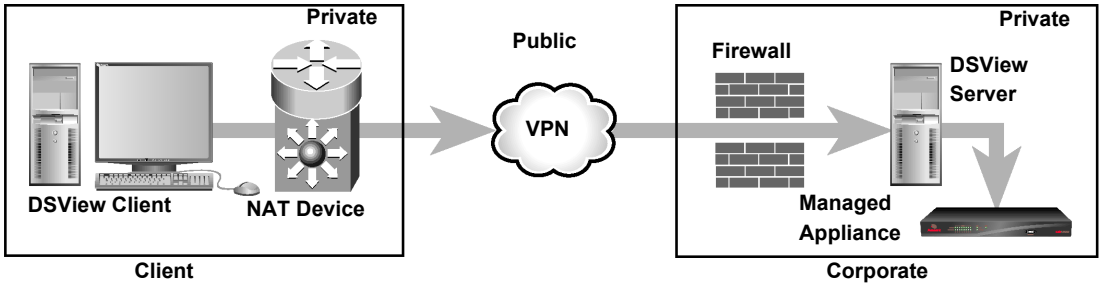


Figure 1.11: Single NAT Configuration (Client Only)

Another scenario, shown in Figure 1.12, is when the corporate site also uses a NAT device to save IP addresses (double-NAT). Since the DSView Client is trying to access a private resource inside the corporate site, the TCP/IP ports used for HTTPS and the proxy server must be configured to be exposed on the corporate NAT device.

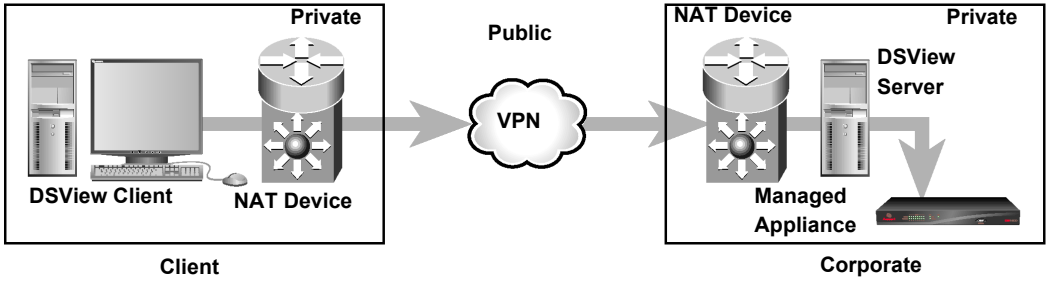


Figure 1.12: Double-NAT Configuration (Client and Corporate)

NOTE: NAT devices may not be connected between the DSView Server and any managed appliances.

CHAPTER 2

Installation

Installing the DSView 3.0 Management Software

The DSView software is installed on a computer that will serve as the host and is fully integrated with the Avocent patented OSCAR graphical user interface, allowing you to manage your DSR switches and other data center devices both over LAN connections and from the local analog station. When the software is installed, the DSView database and a Hub DSView Server are also installed on the dedicated server.

The DSView software may be installed on a computer containing an existing DSView 2.x authentication server without causing any interference with the operation of the DSView 2.x system. The DSView 2.x authentication server and the DSView software may run on the same dedicated server at the same time.

Rebooting the dedicated server is not required prior to using the DSView software.

Once the DSView software is installed and you have configured the Hub DSView Server, DSView users may log in at another computer as a DSView Client using an Internet Explorer 6.0 SP1 or later web browser.

NOTE: The base license shipped with your DSView software allows one DSView Client. Additional licenses must be purchased to allow more DSView Clients on your DSView system.

You may also install the DSView software on additional computers and configure them as Spoke DSView Servers. A Spoke DSView Server replicates the data contained on the Hub DSView Server. See *Specifying and Managing Spoke Authentication Servers* on page 103 for information on adding Spoke DSView Servers and *Running the DSView Software* on page 48 for information on using the DSView software.

NOTE: The base license shipped with your DSView software contains one Hub DSView Server and one Spoke DSView Server license. Additional licenses must be purchased to install additional Hub DSView Servers or Spoke DSView Servers.

Before Installing the DSView software

You must perform the following before installing the DSView software:

- Install the hardware - Install the managed appliance (DSR switch, CPS serial over IP network appliance, EVR1500 environmental monitor and control appliance and generic appliance) hardware.
- Set up each server - Access mouse settings on each server connected to the DSR switch or CPS appliance and set mouse acceleration to Slow or None.

Minimum requirements for the DSView software

The following are the minimum requirements for installing the DSView software on a dedicated server or a computer that will function as a Spoke DSView Server:

- 1GHz Pentium 3 (2GHz Pentium 4 recommended)
- 512 Mbyte of RAM (1GByte recommended)
- 100BaseT NIC (1GByte LAN recommended)
- One of the following operating systems:
  - Windows NT Server
  - Windows 2000 Server or Windows 2000 Advanced Server with the latest service package
  - Windows Server 2003 Standard, Enterprise and Web Edition
- 1Gbytes of free disk space

The DSView software may be installed using the DSView software CD or by downloading the software in a self-extracting .zip file from the Avocent web site.

To install the DSView software:

1. Log on to the dedicated server as Administrator.
2. To install from a CD:
   a. Insert the DSView 3.0 CD. An autorun file will bring up a menu of installation options.

      A menu of installation options will appear.

Figure 2.1: DSView Software Screen

b. Click *Install DSView Software*.

-or-

If autorun is not enabled, type **`<drive:>\DSView\win32\setup.exe`**, where <drive:> is the letter of your CD-ROM drive.

c. An install preparation dialog box displays and the installation program will verify that the server meets the minimum requirements for installing the DSView software.

-or-

To install from a downloaded file:

a. Using your web browser, download the DSView software from the Avocent web site. (Go to www.avocent.com and click the *Support* link. On the Technical Support page, click the *Product Upgrades* link.)

b. Double-click on the install package (setup.exe) downloaded from Avocent.

c. An install preparation dialog box displays and the installation program will verify that the server meets the minimum requirements for installing the DSView software.

3. The Check for an UPDATED version window will appear.

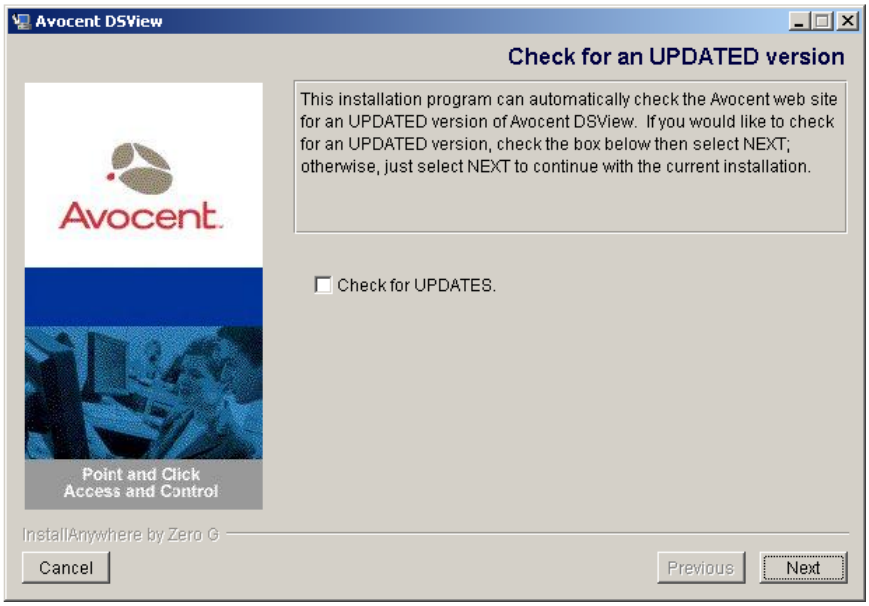

Avocent DSView
Check for an UPDATED version
This installation program can automatically check the Avocent web site for an UPDATED version of Avocent DSView. If you would like to check for an UPDATED version, check the box below then select NEXT; otherwise, just select NEXT to continue with the current installation.
Avocent
Check for UPDATES.
Point and Click Access and Control
InstallAnywhere by Zero G
Cancel
Previous
Next

Figure 2.2: Check for an UPDATED version Window

NOTE: If the DSView software is already installed on the dedicated server, a message box will display. Click *OK* to dismiss the message box. Click *Next* in the Check for UPDATED Version window to reinstall the software, or click *Cancel* to cancel the reinstall.

Click *Check for UPDATES* and then click *Next* to check the Avocent web site for the most recent DSView software install package. Continue to step 4.

-or-

Click *Next* to install the version of DSView software that was downloaded or is on your CD. Go to step 5.

4. If a newer version of the DSView software is found, an Update Available message box will appear.
   a. Click *OK* to download the latest DSView software install package. The installation will be cancelled and the dedicated server's default web browser is launched and opens in the Product Upgrades and Options page of the Avocent web site.

      -or-

      Click *Cancel* to resume installation of the older version of the DSView software. Go to step 5.
   b. Type your email address and password and click *Submit* to log in to the web site.
   c. Download the DSView 3.0 install package, log out and close the web browser. Return to step 2.

5. The Introduction window will appear.

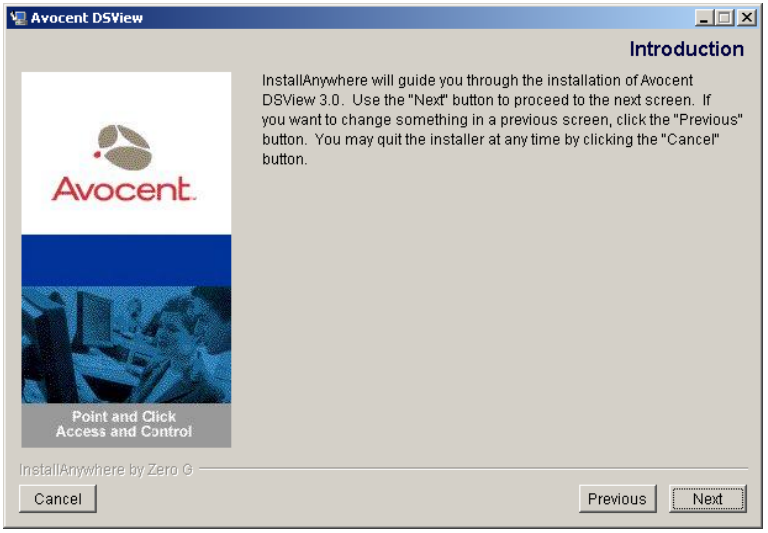

Avocent DSView
Introduction
InstallAnywhere will guide you through the installation of Avocent DSView 3.0. Use the "Next" button to proceed to the next screen. If you want to change something in a previous screen, click the "Previous" button. You may quit the installer at any time by clicking the "Cancel" button.
Avocent.
Point and Click
Access and Control
InstallAnywhere by Zero G
Cancel
Previous
Next

Figure 2.3: Introduction Window

Click *Next*.

6. The License Agreement window will appear.

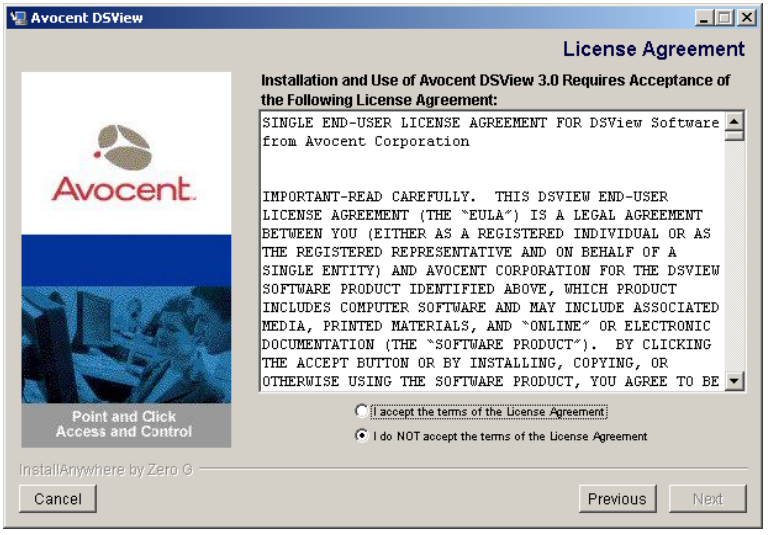

Avocent DSView
License Agreement
Installation and Use of Avocent DSView 3.0 Requires Acceptance of the Following License Agreement:
SINGLE END-USER LICENSE AGREEMENT FOR DSView Software from Avocent Corporation
IMPORTANT-READ CAREFULLY. THIS DSVIEW END-USER LICENSE AGREEMENT (THE "EULA") IS A LEGAL AGREEMENT BETWEEN YOU (EITHER AS A REGISTERED INDIVIDUAL OR AS THE REGISTERED REPRESENTATIVE AND ON BEHALF OF A SINGLE ENTITY) AND AVOCENT CORPORATION FOR THE DSVIEW SOFTWARE PRODUCT IDENTIFIED ABOVE, WHICH PRODUCT INCLUDES COMPUTER SOFTWARE AND MAY INCLUDE ASSOCIATED MEDIA, PRINTED MATERIALS, AND "ONLINE" OR ELECTRONIC DOCUMENTATION (THE "SOFTWARE PRODUCT"). BY CLICKING THE ACCEPT BUTTON OR BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE PRODUCT, YOU AGREE TO BE
I accept the terms of the License Agreement
I do NOT accept the terms of the License Agreement
Avocent.
Point and Click
Access and Control
InstallAnywhere by Zero G
Cancel
Previous
Next

Figure 2.4: License Agreement Window

a. Click *I accept the terms of the License Agreement* and then click *Next*. Continue to step 7.

-or-

Click *I do NOT accept the terms of the License Agreement*. A License Agreement Warning message box will appear. If you click *Quit*, the installation will exit without installing the DSView software. If you click *Resume*, you will be returned to the License Agreement window.

7. If the default TCP port used by the dedicated server hosting the DSView software (TCP Port 443) is not available, the Define Web Application Server TCP Port window will appear.

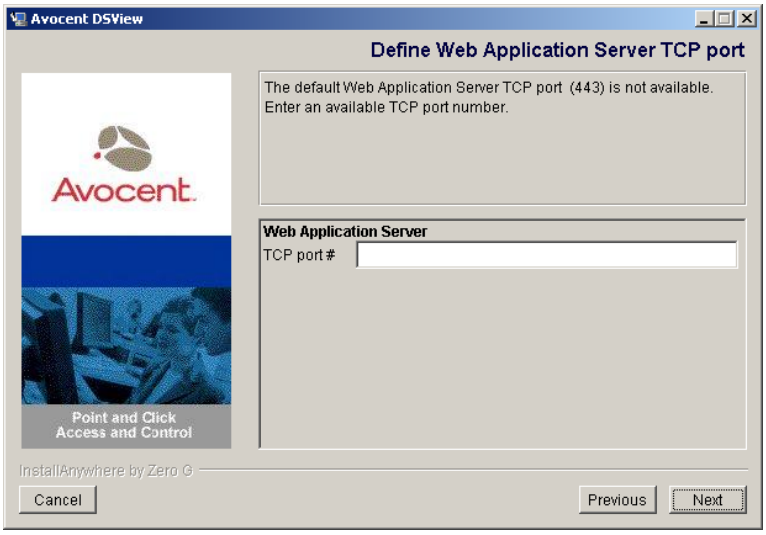


Figure 2.5: Define Web Application Server TCP Port Window

a. Type the port you want to use in the *TCP port #* field.

b. Click *Next*.

8. If the default TCP port used by the Video Viewer proxy (TCP Port 1078) is not available, the Define TD (target device) Session Viewer Proxy TCP Port window will appear.

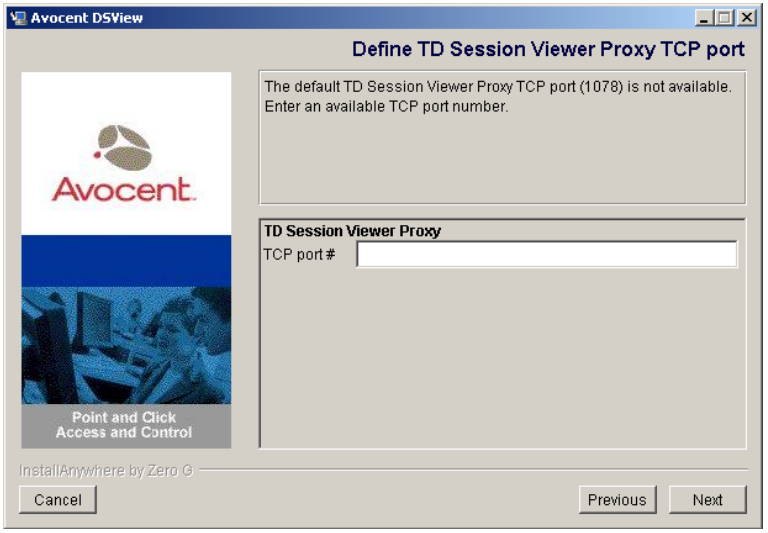


Figure 2.6: Define TD Session Viewer Proxy TCP Port Window

a. Type the port you want to use in the *TCP port #* field.

b. Click *Next*.

9. The Choose Destination Location window will appear.

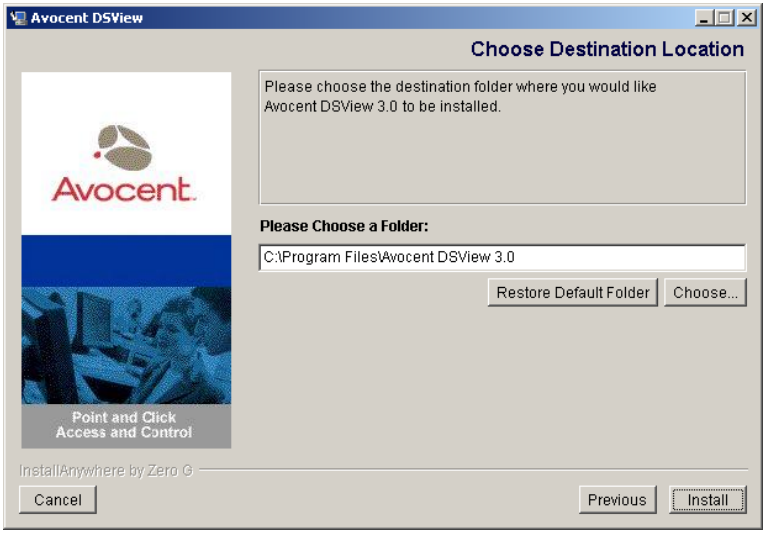


Figure 2.7: Choose Destination Location Window

a. Click *Choose* and use the Browse for Folder dialog box to select a directory in which to install the DSView software.

   -or-

   If you wish, click *Restore Default Folder* to restore the install directory to the default (C:\Program Files\Avocent DSView 3.0).

b. Click *Install* when you are finished.

The Installing... window will appear and displays the progress of the installation. The software will be installed in the specified folder, a *Start - Programs - DSView 3.0* shortcut menu will be created and the DSView software service startup will be verified. You may cancel the installation by clicking *Cancel*.

NOTE: If a previous version of the DSView software already exists on the dedicated server, message boxes may appear asking if you want to overwrite existing files. Click *Yes to All*.

10. When the software has finished installing, the Successful Service Startup message box will appear.

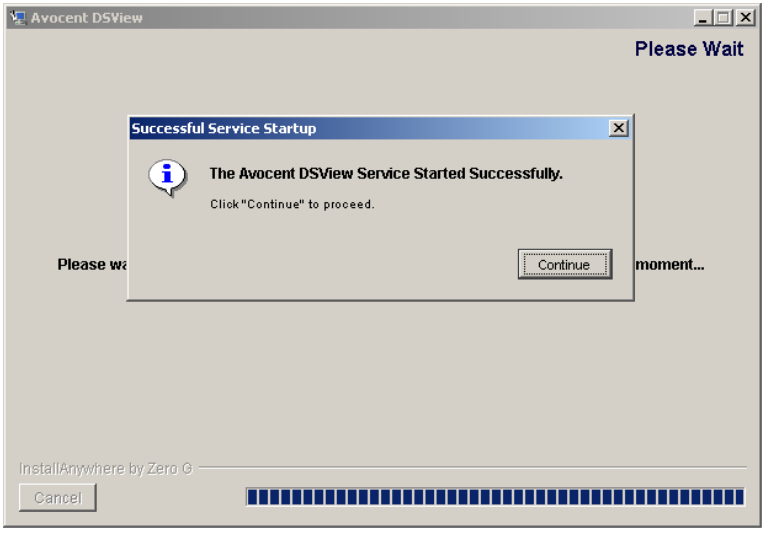


Figure 2.8: Successful Service Startup Message Box

Click *Continue*.

11. The Installation Complete window will appear.

Avocent DSView
Installation Complete
Congratulations! Avocent DSView has been successfully installed to:
C:\Program Files\Avocent DSView 3.0
Avocent DSView must now be configured. Click Done to launch the Internet browser and run the DSView Setup Wizard. If the browser does not start, you must manually run DSView to complete the installation.
A link to the DSView application can be found in the Avocent DSView 3.0 folder in the Start Menu.
Avocent
Point and Click
Access and Control
InstallAnywhere by Zero G
Cancel
Previous
Done

Figure 2.9: Installation Complete Window

Click *Done* to begin configuration of the DSView software.

NOTE: A Security Alert dialog box will appear containing certificate information and a warning that the generator of the certificate is not trusted. This occurs because the DSView Server certificate created when the DSView Server is installed is a self-signed certificate. You may either import the certificate into the DSView Client web browser (choosing to trust the certificate) or obtain a server certificate from a Certificate Authority (CA) trusted by the web browser.

-or-

Click the *Cancel* button in the top right corner of the window to configure the DSView software at a later time by launching the DSView software from the *Start* menu.

Configuring the DSView Software

Once the DSView software has been installed, it must be configured using a web browser. During the installation process, you are given the choice of launching the web browser or quitting the installation and configuring the DSView software at a later time by launching the DSView software. The DSView software includes the DSView Server Configuration Wizard for easy, step-by-step configuration.

When you initially configure the DSView software installation, a Security Alert dialog box will appear and ask you to verify that the certificate on the dedicated system is valid before you may proceed. During configuration, you specify whether the computer will be a Hub DSView Server or Spoke DSView Server.

NOTE: If this is your first DSView Server installation, *Hub* should be selected in the Select DSView Server Role window. The Hub DSView Server should be installed first before any Spoke DSView Servers are added to your DSView system.

If the computer is to act as a Hub DSView Server, you will enter the license key obtained from Avocent and provide a username and password that will be used to initially log in to the DSView software to add and manage DSView users and units (target devices, CPS appliances, DSR switches, EVR1500 environmental monitors and generic appliances).

If you specify that the computer will act as a Spoke DSView Server, you will specify the following:

- The Hub DSView Server for which the computer acts as a Spoke DSView Server.
- The name and password of an existing DSView Administrator for the Hub DSView Server.

NOTE: Spoke DSView Servers replicate the data on the Hub DSView Server. The Hub DSView Server contains the DSView software data that DSView Clients access. See *Specifying and Managing Spoke Authentication Servers* on page 103 for more information on Spoke DSView Servers.

To configure the DSView software:

1. If you are configuring the DSView software during the installation process, click *Done* in the Launch Default Browser window.

   -or-

   If you quit the DSView software installation process before configuring the software, select *Start - Programs - Avocent DSView Software - DSView 3.0*.

NOTE: A security alert box will appear containing certificate information. See *Using Certificates with the DSView Software* on page 22 for more information on certificates.

   The DSView 3.0 Explorer will appear containing the Welcome page of the DSView Server Configuration Wizard.

   Click *Next*.

2. The Select DSView Server Role window displays.

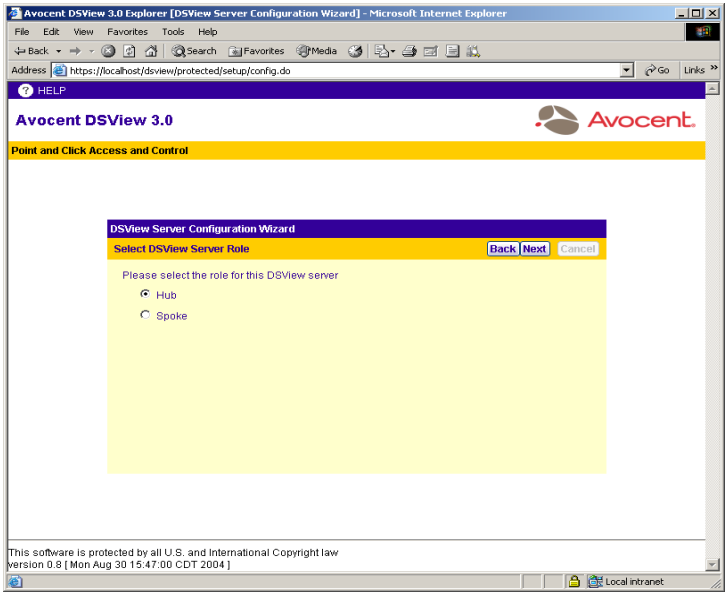

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://localhost/dsview/protected/setup/config.do
Go Links
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Select DSView Server Role
Back Next Cancel
Please select the role for this DSView server
Hub
Spoke
This software is protected by all U.S. and International Copyright law
version 0.8 [Mon Aug 30 15:47:00 CDT 2004]
Local intranet

Figure 2.10: DSView Server Configuration Wizard - Select DSView Server Role Window

a. Click *Hub* to assign the dedicated server as the Hub DSView Server. Continue to step 3.

-or-

Click *Spoke* to assign the dedicated server as a Spoke DSView Server. Go to step 9.

b. Click *Next*.

NOTE: See *Specifying and Managing Spoke Authentication Servers* on page 103 for detailed information on Spoke DSView Servers.

3. The Enter License window displays.

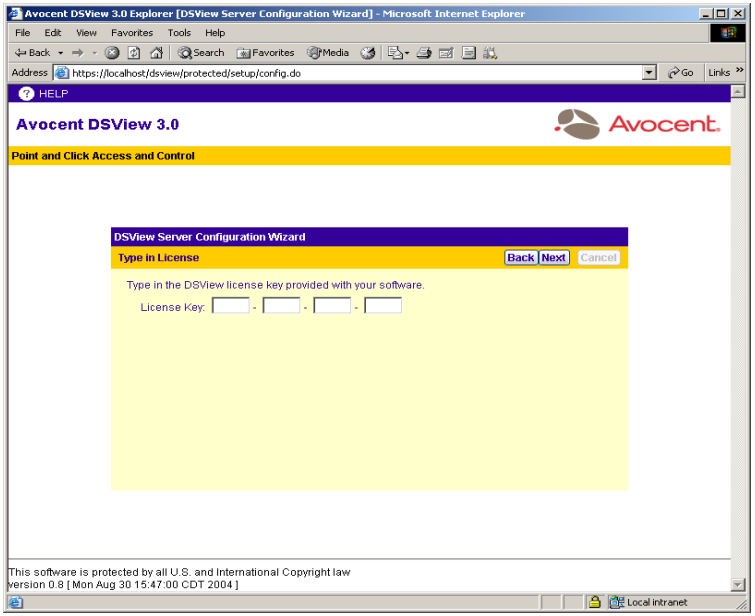

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://localhost/dsview/protected/setup/config.do
Go Links
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Type in License
Back Next Cancel
Type in the DSView license key provided with your software.
License Key:
This software is protected by all U.S. and International Copyright law
version 0.8 [Mon Aug 30 15:47:00 CDT 2004]
Local intranet

Figure 2.11: DSView Server Configuration Wizard - Type in License Window

a. Type the Avocent-provided license key for the Hub DSView Server.

NOTE: If the entered license is already in use on another dedicated server, you will receive a license violation when you log in and must configure the server as a Spoke DSView Server.

NOTE: DSView software license keys prior to version 3.0 are not valid.

b. Click *Next*.

4. The Type in Initial Administrator Information window displays.

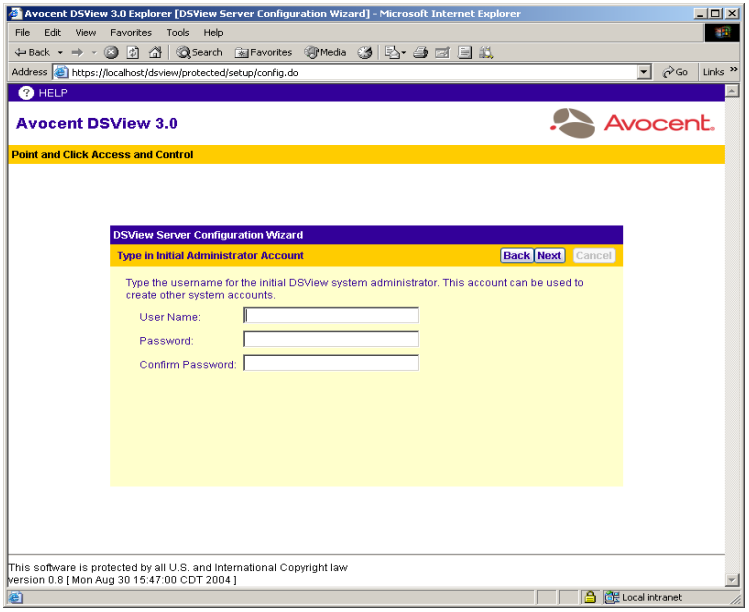

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://localhost/dsview/protected/setup/config.do
Go Links
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Type in Initial Administrator Account
Back Next Cancel
Type the username for the initial DSView system administrator. This account can be used to create other system accounts.
User Name:
Password:
Confirm Password:
This software is protected by all U.S. and International Copyright law
version 0.8 [Mon Aug 30 15:47:00 CDT 2004]
Local intranet

Figure 2.12: DSView Server Configuration Wizard - Type in Initial Administrator Information Window

5. Type a username, a password and confirm the password of the DSView user which you wish to give DSView Administrator privileges.

NOTE: Usernames may be up to 64 case-sensitive characters long. The @ symbol may not be used. Passwords may be 3-64 characters long.

Click *Next*.

6. The Updating Hub Configuration window will appear with the message *Request In Progress Please Wait*. The license key will be installed, a DSView Administrator account will be created for the DSView system. The following six user groups are also created:

   - Everyone
   - Appliance Administrators
   - Auditors
   - DSView Administrators
   - User Administrators
   - Users

   DSView user may be assigned to any of the user groups when they are added to the DSView software, or added or removed from user groups at a later time. See *Adding DSView Users* on page 229 and *Managing DSView Users using User Groups* on page 329 for more information.

7. The Completed Successful window will appear when configuration is completed. Click *Finish*.
8. The User Login window will appear within the DSView 3.0 Explorer.

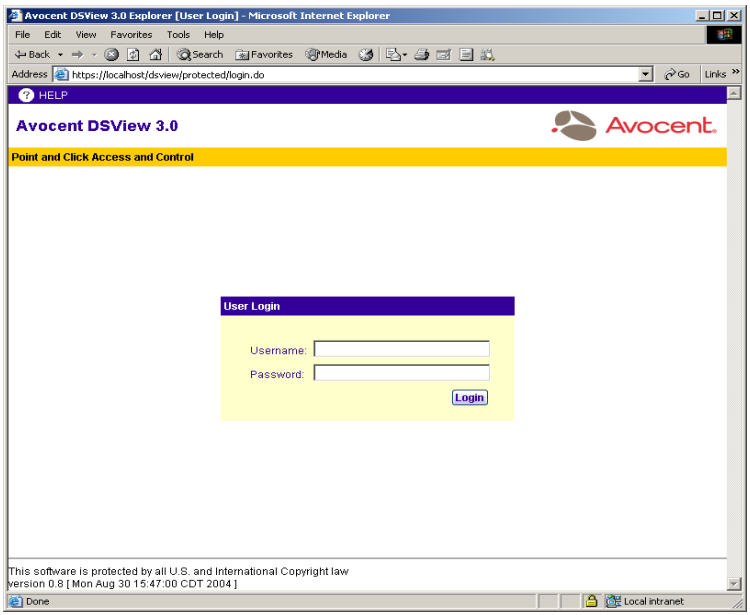


Figure 2.13: User Login Window

You have successfully configured the DSView software and may now log in using the username and password specified during configuration.

If you chose to assign the server as a Spoke DSView Server in the Select DSView Server Role window or entered a duplicate software license key in the Enter License window, complete steps 9-13.

9. The Type in Hub Server Address and Port window will appear.

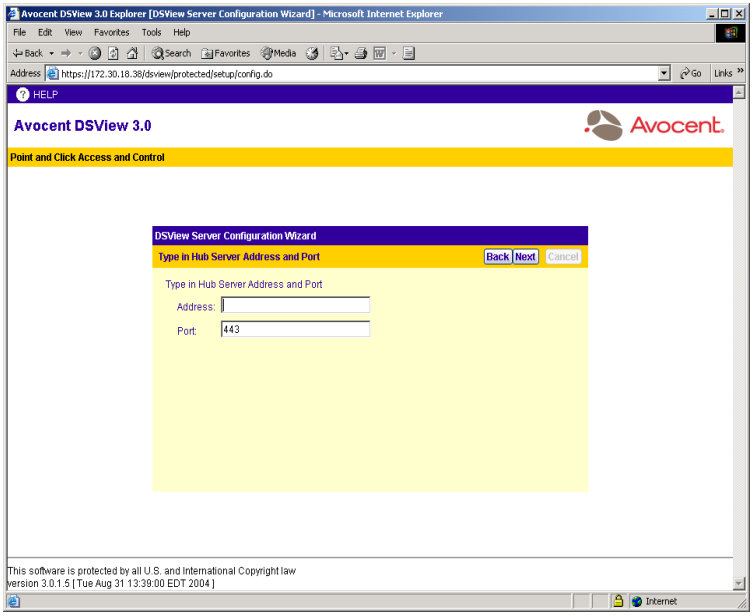

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.38/dsview/protected/setup/config.do
Go Links
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Type in Hub Server Address and Port
Back Next Cancel
Type in Hub Server Address and Port
Address:
Port: 443
This software is protected by all U.S. and International Copyright law
version 3.0.1.5 [Tue Aug 31 13:39:00 EDT 2004]
Internet

Figure 2.14: DSView Server Configuration Wizard - Type in Hub Server Address and Port Window

a. Type the address of the Hub DSView Server using standard dot notation (xx.xx.xx.xx) or type the DNS name in the Address field.

b. Click *Next*.

10. The Accept Hub DSView Server Certificate window will appear.

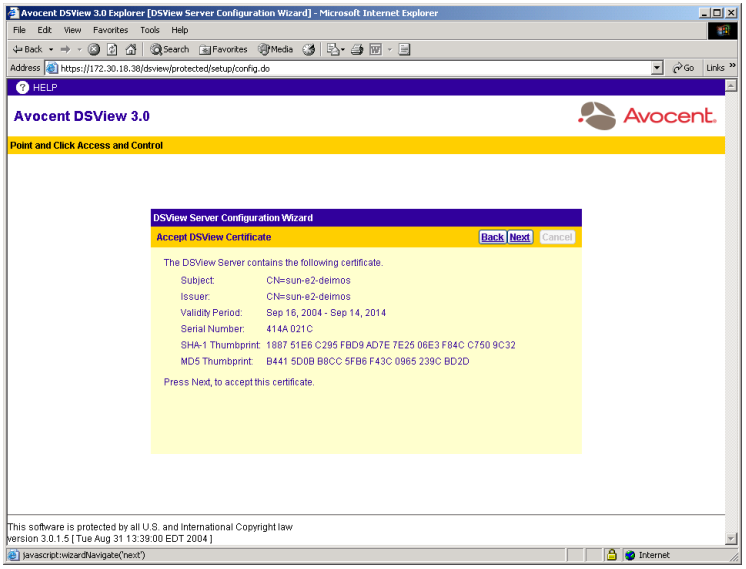

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.38/dsview/protected/setup/config.do
Go Links
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Accept DSView Certificate
Back Next Cancel
The DSView Server contains the following certificate.
Subject: CN=sun-e2-deimos
Issuer: CN=sun-e2-deimos
Validity Period: Sep 16, 2004 - Sep 14, 2014
Serial Number: 414A 021C
SHA-1 Thumbprint: 1887 51E6 C295 FBD9 AD7E 7E25 06E3 F84C C750 9C32
MD5 Thumbprint: B441 5D0B B8CC 5FB6 F43C 0965 239C BD2D
Press Next, to accept this certificate.
This software is protected by all U.S. and International Copyright law
version 3.0.1.5 [Tue Aug 31 13:39:00 EDT 2004]
javascript:wizardNavigate('next')
Internet

Figure 2.15: DSView Server Configuration Wizard - Accept DSView Server Certificate Window

a. Click *Next* to accept the certificate.

11. The Type in Hub Administrator Credentials window will appear.

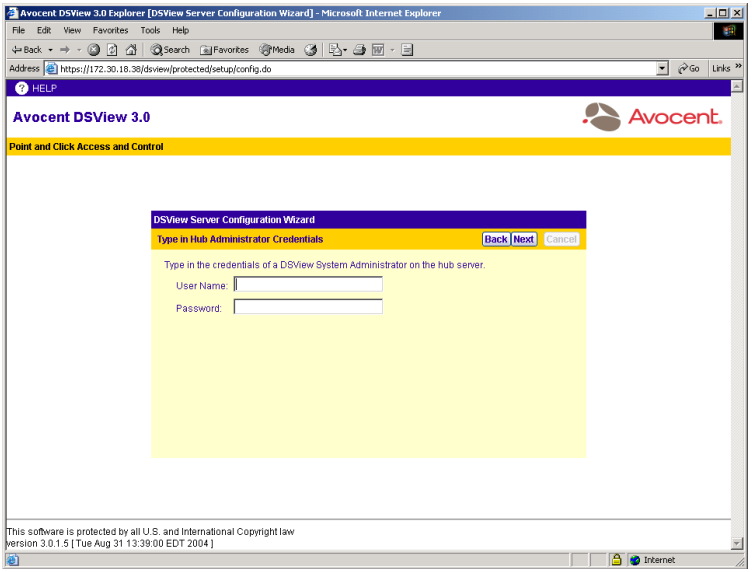

Avocent DSView 3.0 Explorer [DSView Server Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.38/dsview/protected/setup/config.do
HELP
Avocent DSView 3.0
Avocent
Point and Click Access and Control
DSView Server Configuration Wizard
Type in Hub Administrator Credentials
Back Next Cancel
Type in the credentials of a DSView System Administrator on the hub server.
User Name:
Password:
This software is protected by all U.S. and International Copyright law
version 3.0.1.5 [Tue Aug 31 13:39:00 EDT 2004]
Internet

Figure 2.16: DSView Server Configuration Wizard - Type in Hub Administrator Credentials Window

a. Type a valid username and password for a DSView user with DSView Administrator privileges on the Hub DSView Server.

b. Click *Next*.

12. The Registering Spoke Server window will appear with the message *Request In Progress Please Wait*. The configuration of the Spoke DSView Server will be saved to the database of the Hub DSView Server and the Spoke DSView Server's certificates will be installed on the Hub DSView Server.
13. The Completed Successful window will appear when the Spoke DSView Server has been added. Click *Finish*.

Installing the DSR Remote Operations Software (Optional)

If DSR1021, DSR1022, DSR1024, DSR1020, DSR2020 or DSR4020 switches are installed on your DSView system, you may use the DSR Remote Operations software for switch access using a dial-up point to point protocol (PPP) modem connection when an Ethernet connection is unavailable.

The following components will be installed:

- The DSR Remote Operations software
- JRE (Java Runtime Environment)
- DSR Remote Operations Software online help

See *DSR Remote Operations Software* on page 433 for detailed information on using the DSR Remote Operations software.

Minimum requirements for the DSR Remote Operations software

The following are the minimum requirements for installing the DSR Remote Operations software as a DSView Client:

- 650 MHz Pentium or equivalent processor
- 128 MByte RAM minimum (256 MByte recommended)
- XGA Video with graphics accelerator
- Desktop size setting of at least 800 x 600
- Color palette of at least 256 colors
- One of the following operating systems:
  - Windows NT 4.0 Workstation or Server with Service Pack 6a or later
  - Windows 2000 Workstation or Server with Service Pack 2 or later
  - Windows XP Home Edition or Professional.

The DSR Remote Operations Software is installed from the DSView 3.0 Management Software CD.

To install the DSR Remote Operations software:

1. Log on to the host system as Administrator.
2. Insert the DSView 3.0 Management Software CD. An autorun file will bring up a menu of installation options.

   A menu of installation options will appear.

Figure 2.17: DSView Software Screen

3. Click *Install DSR Remote Operations*.

   -or-

   If autorun is not enabled, type **`<drive:>\DSR Remote Operations\win32\setup.exe`**, where <drive:> is the letter of your CD-ROM drive.

4. An install preparation dialog box displays and the installation program will verify that the client computer meets the minimum requirements for installing the DSR Remote Operations Software.

5. The Introduction window will appear.

Avocent DSR Remote Operations
Introduction
DSR Remote Operations
InstallAnywhere will guide you through the installation of Avocent DSR Remote Operations 3.0. Use the "Next" button to proceed to the next screen. If you want to change something in a previous screen, click the "Previous" button. You may quit the installer at any time by clicking the "Cancel" button.
Avocent
InstallAnywhere by Zero G
Cancel
Previous
Next

Figure 2.18: DSR Remote Operations - Introduction Window

Click *Next*.

6. The License Agreement window will appear.

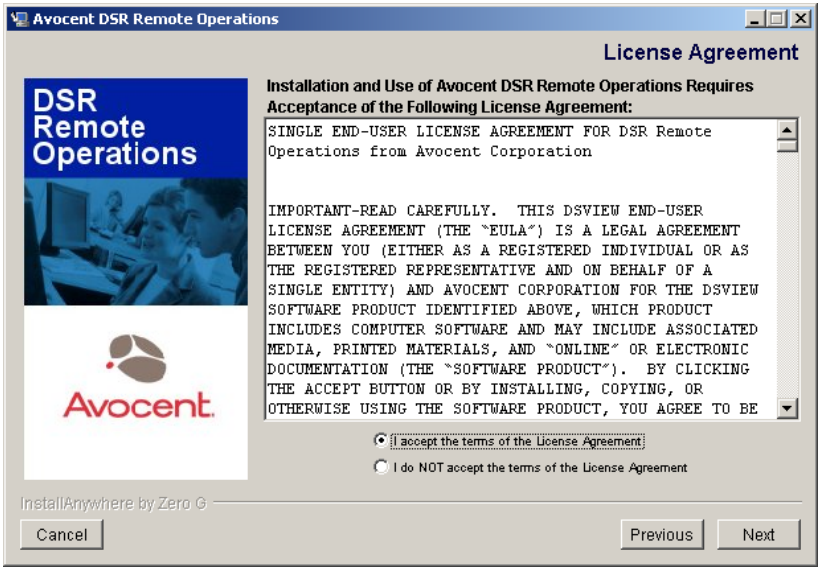

Avocent DSR Remote Operations
License Agreement
DSR Remote Operations
Installation and Use of Avocent DSR Remote Operations Requires Acceptance of the Following License Agreement:
SINGLE END-USER LICENSE AGREEMENT FOR DSR Remote Operations from Avocent Corporation
IMPORTANT-READ CAREFULLY. THIS DSVIEW END-USER LICENSE AGREEMENT (THE "EULA") IS A LEGAL AGREEMENT BETWEEN YOU (EITHER AS A REGISTERED INDIVIDUAL OR AS THE REGISTERED REPRESENTATIVE AND ON BEHALF OF A SINGLE ENTITY) AND AVOCENT CORPORATION FOR THE DSVIEW SOFTWARE PRODUCT IDENTIFIED ABOVE, WHICH PRODUCT INCLUDES COMPUTER SOFTWARE AND MAY INCLUDE ASSOCIATED MEDIA, PRINTED MATERIALS, AND "ONLINE" OR ELECTRONIC DOCUMENTATION (THE "SOFTWARE PRODUCT"). BY CLICKING THE ACCEPT BUTTON OR BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE PRODUCT, YOU AGREE TO BE
I accept the terms of the License Agreement
I do NOT accept the terms of the License Agreement
Avocent
InstallAnywhere by Zero G
Cancel
Previous
Next

Figure 2.19: DSR Remote Operations - License Agreement Window

a. Click *I accept the terms of the License Agreement* and then click *Next*. Continue to step 7.

-or-

Click *I do NOT accept the terms of the License Agreement*. A License Agreement Warning message box will appear. If you click *Quit*, the installation will exit without installing the DSR Remote Operations software. If you click *Resume*, you will be returned to the License Agreement window.

7. The Choose Destination Location window will appear.

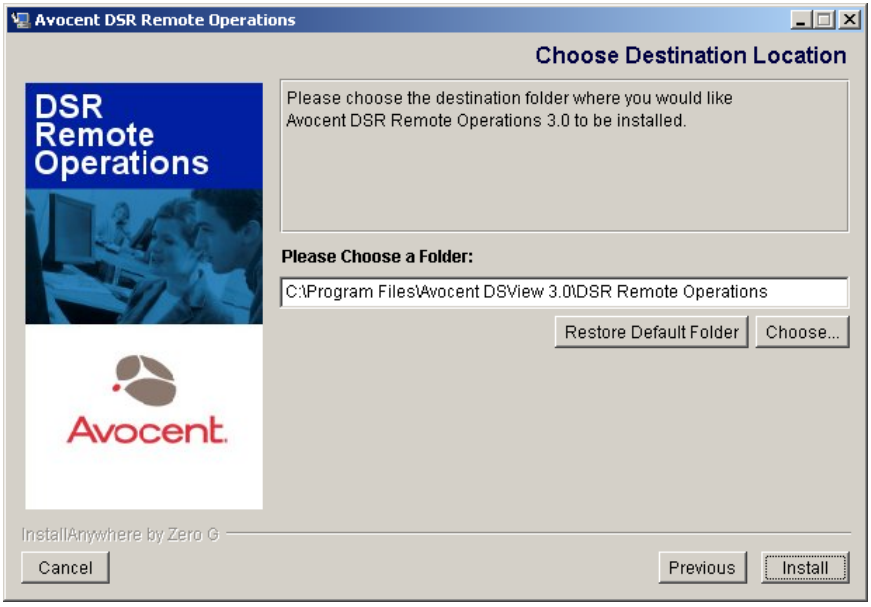


Figure 2.20: DSR Remote Operations - Choose Destination Location Window

a. Click *Choose* and use the Browse for Folder dialog box to select a directory in which to install the DSR Remote Operations software.

-or-

If you wish, click *Restore Default Folder* to restore the install directory to the default (C:\Program Files\Avocent DSView 3.0\DSR Remote Operations).

b. Click *Next* when you are finished.

8. The Installing... window will appear and displays the progress of the installation. The software will be installed in the specified folder and a *Start - Programs - Avocent DSView 3.0 - DSR Remote Operations* shortcut menu will be created. You may cancel the installation by clicking *Cancel*.

NOTE: If a previous version of the DSR Remote Operations software already exists on the client computer, message boxes may appear asking if you want to overwrite existing files. Click *Yes to All*.

9. When the software has finished installing, the DSR Remote Operations Installation window will appear.

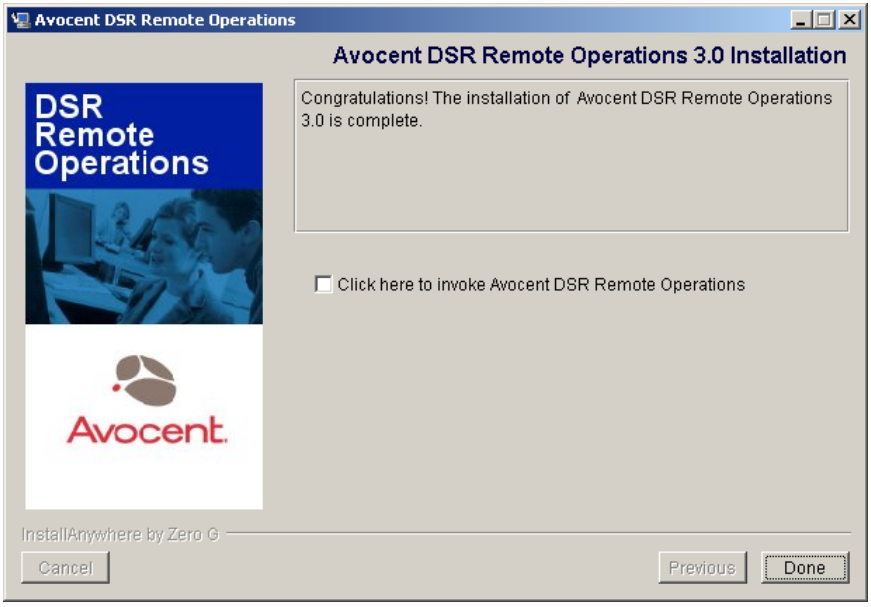

Avocent DSR Remote Operations
Avocent DSR Remote Operations 3.0 Installation
DSR Remote Operations
Congratulations! The installation of Avocent DSR Remote Operations 3.0 is complete.
Click here to invoke Avocent DSR Remote Operations
Avocent
InstallAnywhere by Zero G
Cancel
Previous
Done

Figure 2.21: DSR Remote Operations - DSR Remote Operations Installation Window

a. If you wish to start the DSR Remote Operations, select *Click here to invoke the DSR Remote Operations application*.

b. Click *Done* when you are finished.

Running the DSView Software

DSView Clients access the DSView software host using a web browser. Any software required by the DSView Client, such as applets and the Java Runtime Environment (JRE), will be automatically installed by the DSView Server host.

The DSView software uses Secure Sockets Layers (SSL) encryption to send data between the DSView software host and the web browser on the DSView Client to ensure data integrity and privacy. When a DSView User attempts to log in to a DSView Client session, the authentication service configured in the DSView software by the DSView Administrator verifies the credentials of the DSView user. Security alerts related to the certificates on the DSView software host may appear. DSView may also use certificates from a third-party Certificate Authority (CA), your own

internal CA or Public Key Infrastructure (PKI). See *Using Certificates with the DSView Software* on page 22 for more information.

The following are the minimum requirements for a DSView Client:

- 650 MHz Pentium or equivalent processor
- 128 MByte of RAM
- 10 or 100BaseT NIC (100 recommended)
- XGA Video with graphics accelerator
- Desktop size setting of at least 800 x 600
- Color palette of at least 256 colors
- One of the following operating systems:
  - Windows NT 4.0 Workstation, Server or Terminal Server with Service Pack 6a or later
  - Windows 2000 Workstation, Server or Terminal Server with Service Pack 2 or later
  - Windows XP Home Edition or Professional
  - Windows 2003 Server Standard, Enterprise or Web Edition
- Internet Explorer 6.0 SP1 or later web browser (Windows operating systems only)

NOTE: It is recommended that Microsoft Internet Explorer is kept up to date with the latest updates from Microsoft.

Before accessing the DSView software from a DSView Client:

- Enable cookies and JavaScript on your DSView Client's web browser

To open a DSView Client session:

NOTE: If DSView Client Certificate Authentication or DSView Client Integrated Windows Authentication is being used, the DSView user will not be required to log in. See *Using Certificates with the DSView Software* on page 22 for more information.

1. From the DSView Client web browser, enter the URL of the DSView Server host in the address bar in the format:

   https://<servername>/dsview

   where <servername> is the IP address of the host system, in standard dot notation (xx.xx.xx.xx) or the DNS name.

   -or-

   If you are opening the session on the DSView Server, you may also select *Start - Program Files - Avocent DSView 3.0 - DSView Software*.

2. Accept all security alerts that may appear as the client connects to the DSView Server. The DSView 3.0 Explorer User Login window will appear.

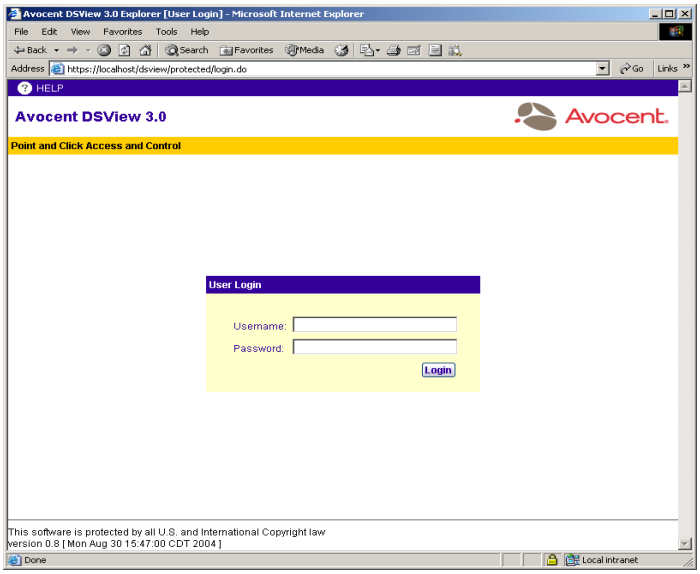


Figure 2.22: User Login Window

3. Type a valid username and password in the fields.

NOTE: Depending on the settings specified by the Administrator, you may be required to change your password before being allowed to complete the log in process. See *Adding DSView Users* on page 229 for more information.

4. Click *Login*.

NOTE: The window that appears may vary, depending on the rights assigned to the DSView user that is logging in.

Changing the Color Scheme of the DSView 3.0 Explorer

The display properties of the DSView 3.0 Explorer may be modified. Use the Profile tab to select another color scheme.

NOTE: When the color scheme is changed, it is changed for the logged in DSView user only. Each DSView user may specify their own color scheme

To change the color scheme of the DSView 3.0 Explorer:

1. From the DSView 3.0 Explorer, click the *Profile* tab.
2. From the top navigation bar, click *Preferences*.
3. From the side navigation bar, click *Color Scheme*. The Color Scheme window will appear.

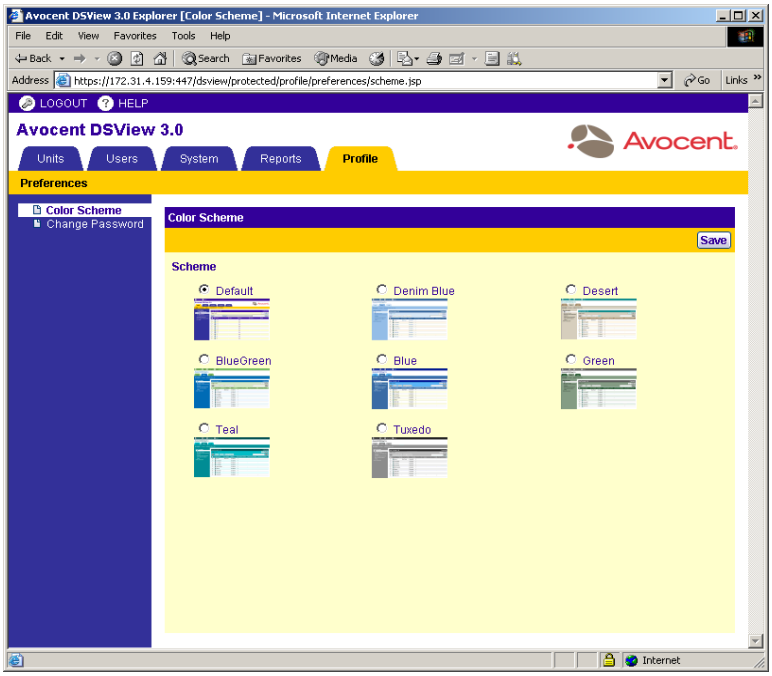


Figure 2.23: Color Scheme Window

4. Click a color scheme to use.
5. Click *Save*. The color scheme will be applied to the DSView 3.0 Explorer window.

Changing Your Password

NOTE: A DSView user may not change their password if the Administrator has not set permissions to allow the DSView user to do so. See *Adding DSView Users* on page 229 for more information.

If you are logged into a DSView software session, you may change your password at any time. You will need to use the new password when you log into your next DSView software session.

To change your password:

1. From the DSView 3.0 Explorer, click the *Profile* tab.
2. From the top navigation bar, click *Preferences*.
3. From the side navigation bar, click *Change Password*. The Change Password window will appear.

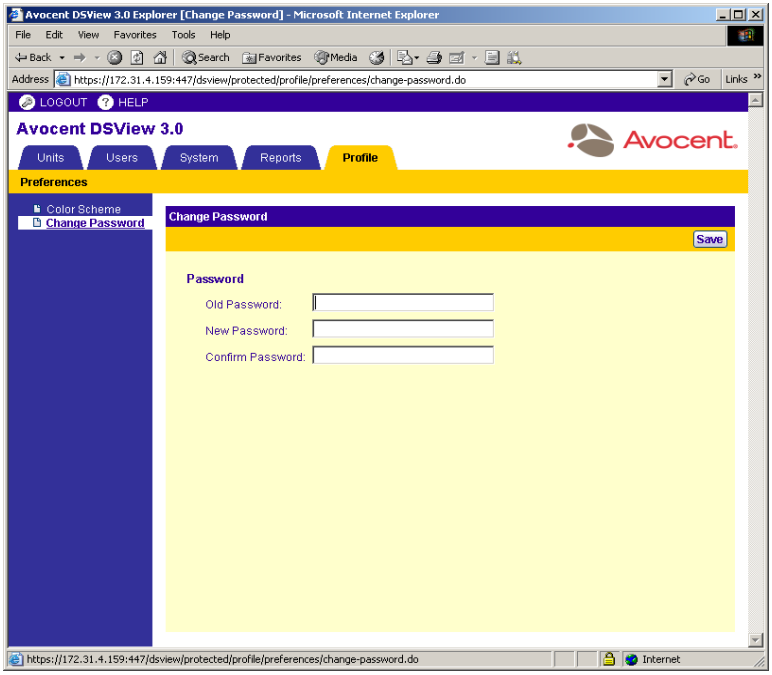


Figure 2.24: Change Password Window

4. Type your current password.
5. Type and confirm the new password.
6. Click *Save*.

NOTE: By default, passwords must contain at least three characters and never expire. A DSView Administrator may specify a different minimum character length and an expiration. See *Modifying authentication services* on page 87 for more information.

Uninstalling the DSView Software

To uninstall the DSView software:

1. Select *Start* - *Settings* - *Control Panel*. The Control Panel will appear.
2. From the Control Panel, click *Add/Remove Programs*. The Add/Remove Programs dialog box will appear.
3. Select *Avocent DSView 3.0* and then click *Change/Remove*. The Uninstall Avocent DSView window will appear.

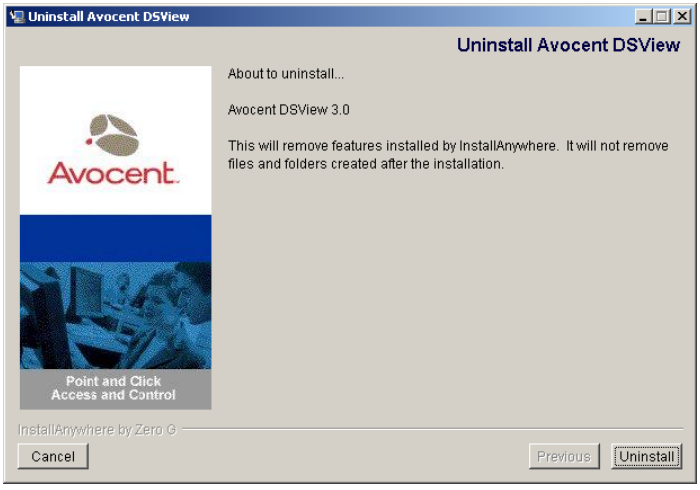

Uninstall Avocent DSView
Uninstall Avocent DSView
About to uninstall...
Avocent DSView 3.0
This will remove features installed by InstallAnywhere. It will not remove files and folders created after the installation.
Avocent
Point and Click Access and Control
InstallAnywhere by Zero G
Cancel
Previous
Uninstall

Figure 2.25: Uninstall Avocent DSView Window

4. Click *Uninstall*.

Ending a DSView Software Session

To end a DSView software session:

From the DSView 3.0 Explorer, Click *LOGOUT*.

NOTE: Files are copied to DSView Clients when you log in to the DSView software. Temporary files may be removed using the Delete Temporary Internet Files command and active web components may be uninstalled using the Remove Objects command. See Internet Explorer documentation for more information.

CHAPTER 3

DSView Server

About the DSView Server

The DSView Server contains the DSView software that enables DSView users to securely access, manage, monitor and control remote target devices through DSR switches and CPS serial over IP appliances. The DSView Server provides a centralized database repository for storing configuration, DSView user, unit and system information and also provides services for authentication, access control, auditing, monitoring and license management.

A Hub DSView Server is responsible for maintaining the master copy of the database in a DSView system. Only one DSView Server in a DSView system may be configured as the Hub DSView Server. The Hub DSView Server is assigned to your DSView system during system configuration.

Spoke DSView Servers perform database replication with the Hub DSView Server. The Hub DSView Server acts as the traffic cop for database replication between itself and all of the other Spoke DSView Servers in a DSView system. A Hub DSView Server and Spoke DSView Server both offer the same DSView software functionality to a DSView user. The distinction of "Hub" or "Spoke"only has to do with the database replication role that the server plays and not with the functionality that the server offers to the DSView user. Adding one or more Spoke DSView Servers to a DSView system provides redundancy and the ability to distribute DSView functionality across multiple sites.

Once the Hub DSView Server and optional Spoke DSView Server(s) are configured, you may create and configure the type of access levels you wish to provide for DSView users within your network environment. Access levels may be assigned to DSView users when they are created, or at a later time by click on a DSView user's name. See *Adding DSView Users* on page 229 for information on creating DSView users and *Viewing the Access Rights of DSView Users* on page 237 for information on modifying DSView user access levels.

You may also set up audit logs to record full details of user access and individual KVM switching activity. See *Working with Audit Logs* on page 401 for more information.

Setting up a DSView Server

The DSView Server may be installed and configured on multiple computers to provide redundancy and allows DSView functionality to be distributed across multiple sites. For maximum security, a backup computer may be added as a Spoke DSView Server.

When the DSView software is installed on a computer, the DSView Administrator determines the role of the DSView Server. Once the DSView software has been installed, the Register Spoke Server and Promote to Hub Server commands may be used to reconfigure the server's role. See *Specifying and Managing Spoke Authentication Servers* on page 103 for more information.

Hub DSView Server Properties

From the DSView 3.0 Explorer, click the *System* tab. *DSView Server* is automatically selected in the top navigation bar and the name of the Hub DSView Server will appear in the side navigation bar.

The following Hub DSView Server properties may be displayed and/or modified by clicking on a side navigation link under Properties:

- Identity - Displays the DSView Server Identification Properties window, which contains the name of the DSView Server and the server's role.
- Network - Displays the DSView Server Network Properties window, which contains the IP address and port used by DSView Clients to access the DSView Server using the HTTPS (SSL) protocol. You may modify the port number used for the HTTPS connection.
- Certificate - Displays the DSView Server Certificate Properties window, which contains the DSView server certificate presented to DSView Client web browsers.

NOTE: When a DSView Client connects to the DSView Server host containing the DSView software, a Security Alert dialog box will appear. If the Client DSView user clicks *Yes*, the web browser will accept the certificate for the current session and future sessions to the DSView Server will display the Security Alert dialog box. If the DSView Client user chooses *Install Certificate*, the self-signed certificate will be installed and trusted on the DSView Client and future sessions to the DSView Server will not display the Security Alert dialog box.

You may create a Certificate Signing Request (CSR) that can be submitted to a Certificate Authority (CA) in order to obtain a signed server certificate. Click the *Get CSR* button to create the CSR request, or click *Update* to update the DSView server's certificate.

- Proxy Server - Displays the DSView Server Proxy Properties window, which enables you to change the configuration of the proxy server for KVM and Serial sessions. When the Avocent proxy server is used, DSView Client KVM and Serial session requests are sent through the DSView Server rather than directly to the DSR switch or CPS appliance, which prevents the exposure of the internal address of DSR switches or CPS appliances.

NOTE: EVR1500 environmental monitor and generic appliance sessions are not sent through the DSView Server, even when the proxy is enabled.

- Trap Destinations - Displays the DSView Server Trap Destinations window, which enables you to specify up to four trap destinations. The DSView Server polls DSR switches and CPS appliances to determine if they are responding. If a DSR switch or CPS appliance does not respond, the DSView Server sends an SNMP Loss Of Communication (LCM) trap to the external SNMP manager. When the DSView Server detects that the DSR switch or CPS appliance is once again communicating, a Regained Communication (RCM) trap is sent from the DSView Server.

  When a response change occurs during communication between the DSView Server and a DSR switch or CPS appliance, the DSView software writes the event to the audit log and sends an SNMP trap to the trap destinations you specify.

  An SNMP trap is an automatically-generated alert containing either information or error explanations. The following two traps are generated by the DSView software:

  a. LCM (loss of communication) with appliance

  b. RCM (regain of communication) with appliance

NOTE: Trap destinations may also be specified by clicking on a DSR switch or CPS appliance and modifying the SNMP appliance settings. See *Modifying DSR switch or CPS appliance SNMP settings* on page 168 for more information.

- DSView Client Sessions - Displays the DSView Server Client Session Properties window, which enables you to specify DSView Client session settings for inactivity time-out, Single Sign-On (SSO) for the DSView session or restrictions to use specific IP addresses to start DSView sessions.
- Email - Displays the DSView Server Email Server Properties window, which enables you to change the IP address of the SMTP (Simple Mail Transfer Protocol) server that is used by the DSView software to send email notifications.
- Unit Status Polling - Displays the DSView Server Unit Status Polling Properties window, which enables you to turn on or off unit status polling for the DSView Server and specify the delay between polling cycles and the number of DSR switches and CPS appliances that will be concurrently polled.
- Spoke Servers - Displays the Spoke Servers window, which contains the Spoke DSView Servers configured for your DSView system and enables you to manage them.

To display DSView Server properties:

Click the *System* tab. *DSView Server* is automatically selected in the top navigation bar, *Identity* will be automatically selected in the side navigation bar and the DSView Server Identity Properties window will appear. The top of the side navigation bar will include the name of the DSView Server.

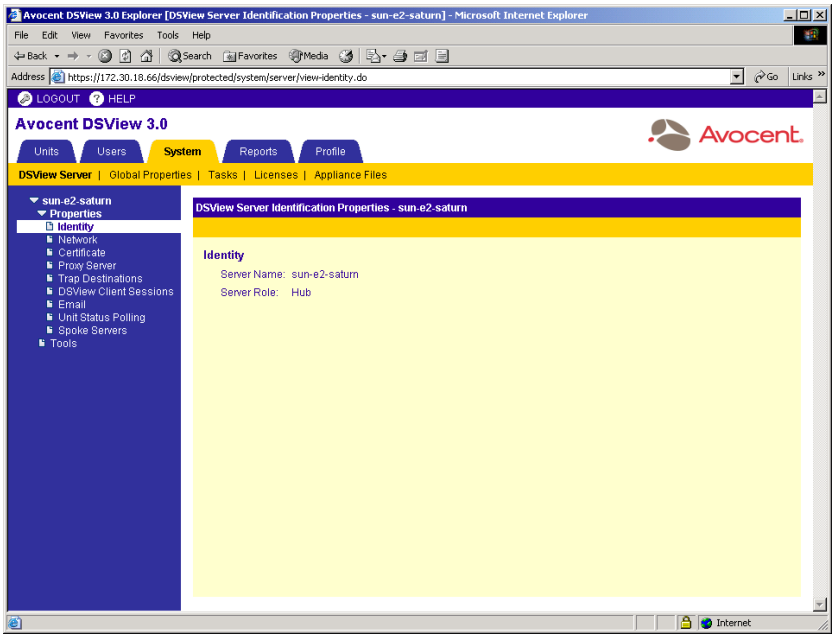


Figure 3.1: DSView Server Identification Properties Window

To modify DSView Server network properties:

NOTE: When modifying the HTTPS port, ensure that the port selected is available on the DSView Server computer.

NOTE: If DSView Clients are located on an external connection, the HTTPS port must be open on your firewall.

1. From the side navigation bar, click *Network*. The DSView Server Network Properties window will appear.

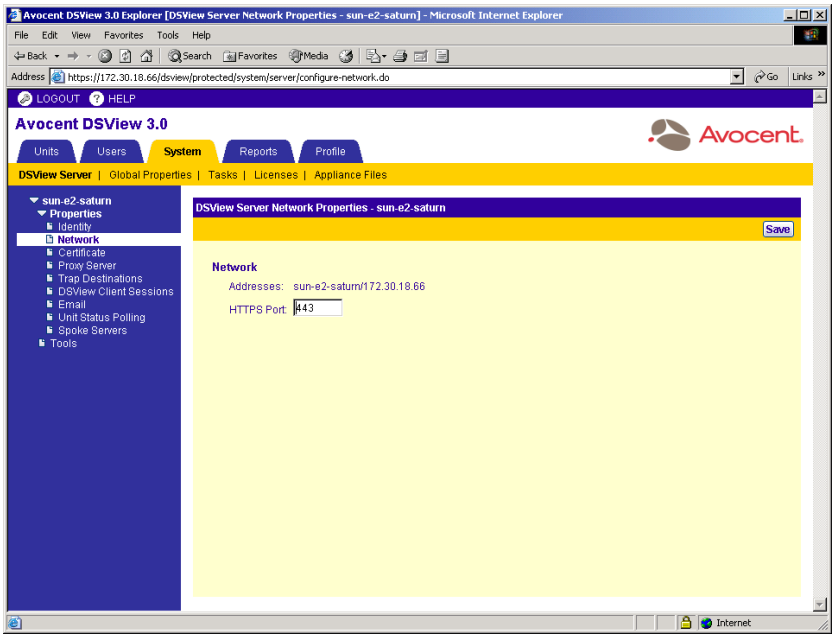


Figure 3.2: DSView Server Network Properties Window

2. Type a new DSView Server port number.

NOTE: If the default value (443) is modified, the port number in the URL must be specified when accessing the DSView software. For example, if the IP address of the Hub DSView Server is 10.0.0.1 and the port number is changed to 444, the following string must be typed in the Address field of the web browser to access the DSView management 3.0 software:

https://10.0.0.1:444/dsview

---

3. Click *Save*. A confirmation dialog box will appear.

NOTE: A web browser error message will appear when *Save* is clicked due to the changing of the DSView Server port number. This error message is a normal occurrence. To reestablish connection to the DSView software, you must reconnect to the Hub DSView Server by typing the URL and including the new port number in the URL. For example, if you changed the port number to 334 for a Hub DSView Server with an IP address of 10.0.0.1, type the following to access the DSView software:

https://10.0.0.1:334/dsview

---

4. Click *Yes* to change the HTTPS port number.

   -or-

   Click *No* to cancel the action.

To create a CSR:

NOTE: Certificates may only be viewed by DSView Administrators. See *Using Certificates with the DSView Software* on page 22 for information on certificates.

1. From the side navigation bar, click *Certificate*. The DSView Server Certificate Properties window will appear.

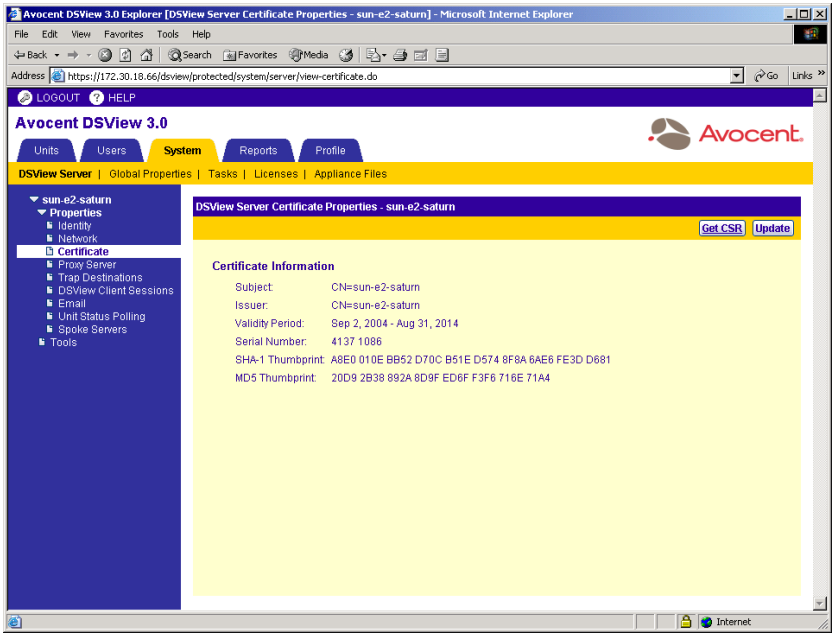


Figure 3.3: DSView Server Certificate Properties Window

2. Click *Get CSR*. A File Download dialog box will appear.
3. Click *Open*. The CSR is downloaded and displays in the configured text editor.

   -or-

   Click *Save*. The Save As dialog box will appear. Select a directory and file name and click *Save* to save the CSR.

   -or-

   Click *Cancel* to cancel the action.
4. Submit the CSR generated request to a Certificate Authority (CA) to obtain a signed server certificate.
5. Update the DSView Server to use the certificate created by the CA. See *To update a certificate on the DSView Server* below for more information.

To update a certificate on the DSView Server:

NOTE: Certificates may only be viewed by DSView Administrators.

1. From the side navigation bar, click *Certificate*. The DSView Server Certificate Properties window will appear.
2. Click *Update*. The Welcome page of the Update DSView Server Certificate Wizard will appear. Click *Next*.
3. The Select Operation to Perform window will appear.

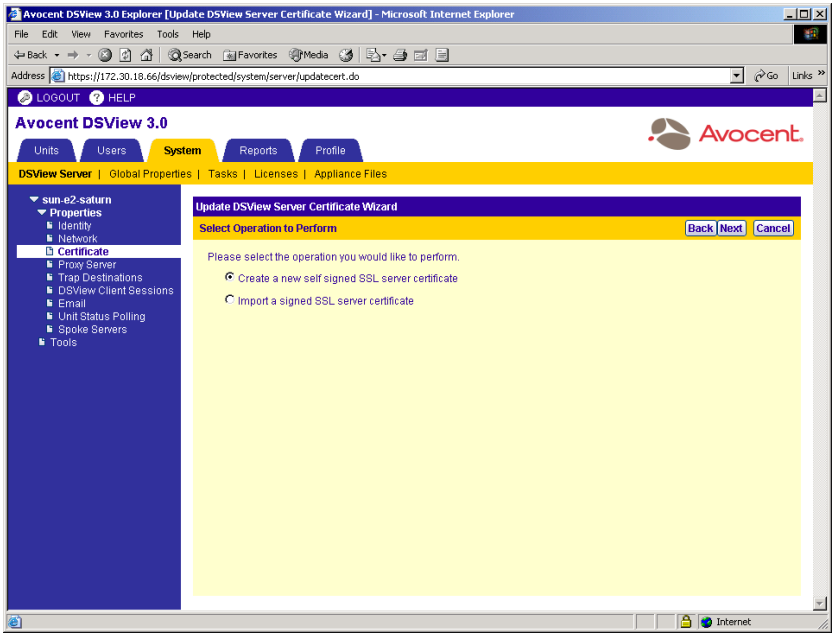


Figure 3.4: Update DSView Server Certificate Wizard - Select Option to Perform Window

4. Select *Create a new self-signed SSL server certificate* to create a minimal security SSL certificate with none of the costs and overhead involved with a Certificate Authority (CA). Continue to step 5.

   -or-

   Select *Import a signed SSL server certificate* to import a more secure SSL certificate that someone, perhaps a CA, has approved. The public key of the imported certificate must match the public key in the certificate that the DSView Server is currently using. This requires that both certificates be made on the same DSView Server. Go to step 6.

   Click *Next*.

5. The Type in Certificate Information window will appear.

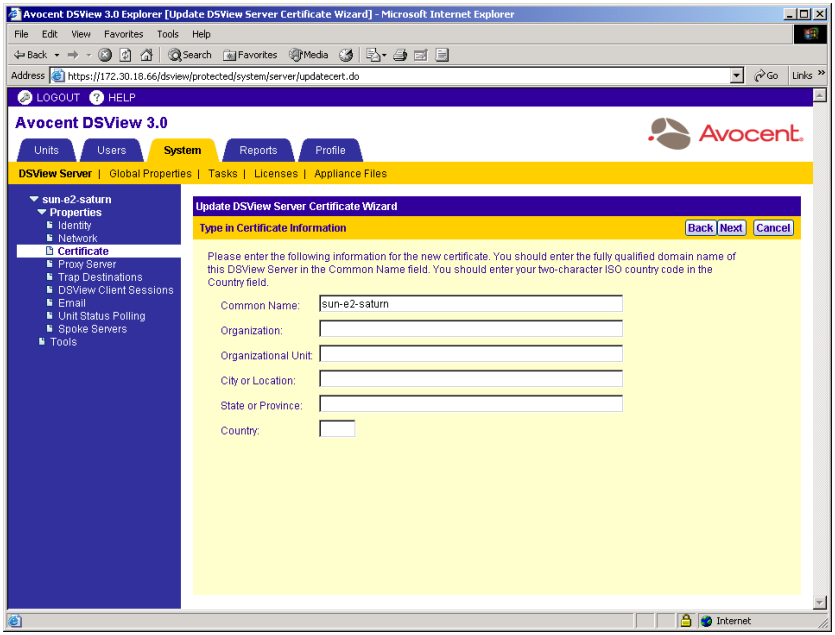

Avocent DSView 3.0 Explorer [Update DSView Server Certificate Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/system/server/updatecert.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
sun-e2-saturn
Properties
Identity
Network
Certificate
Proxy Server
Trap Destinations
DSView Client Sessions
Email
Unit Status Polling
Spoke Servers
Tools
Update DSView Server Certificate Wizard
Type in Certificate Information
Back Next Cancel
Please enter the following information for the new certificate. You should enter the fully qualified domain name of this DSView Server in the Common Name field. You should enter your two-character ISO country code in the Country field.
Common Name: sun-e2-saturn
Organization:
Organizational Unit:
City or Location:
State or Province:
Country:
Internet

Figure 3.5: Update DSView Server Certificate Wizard - Type in Certificate Information Window

a. Type the name of the computer that will serve as the DSView Server on your intranet in the Common Name filed.

   -or-

   If the DSView Server is outside the intranet, type the server's full domain name in dot notation format (xx.xx.xx.xx).

b. Type the name of the country or organization.

c. Type the name of the organizational division or name under which the organization is doing business.

d. Type the complete city or location name.

NOTE: The City or Location is required for organizations registered only at the local level.

e. Type the complete name of the state or province where the organization is located.

f. Type the two-character ISO country code for the country where the organization is located.

g. Click *Next*. Go to step 7.

6. The Select Certificate to Import window will appear.

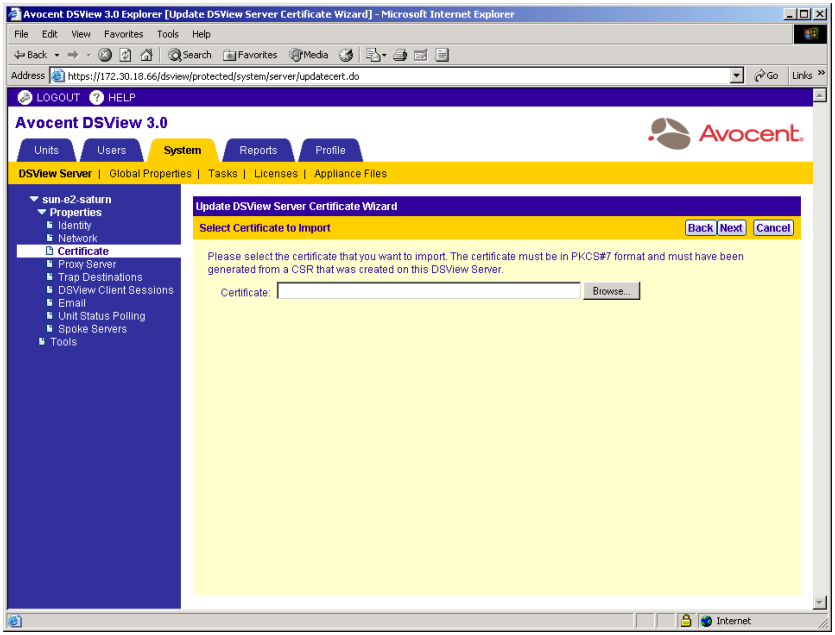

Avocent DSView 3.0 Explorer [Update DSView Server Certificate Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/system/server/updatecert.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
sun-e2-saturn
Properties
Identity
Network
Certificate
Proxy Server
Trap Destinations
DSView Client Sessions
Email
Unit Status Polling
Spoke Servers
Tools
Update DSView Server Certificate Wizard
Select Certificate to Import
Back Next Cancel
Please select the certificate that you want to import. The certificate must be in PKCS#7 format and must have been generated from a CSR that was created on this DSView Server.
Certificate:
Browse...
Internet

Figure 3.6: Update DSView Server Certificate Wizard - Select Certificate to Import Window

a. Type the full directory and file name for the SSL certificate file you wish to import to the DSView Server.

   -or-

   Click the *Browse* button and specify the SSL certificate file.

NOTE: The name of the SSL certificate file must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

NOTE: Imported certificates must have been generated from a CSR created on the same DSVIew Server to which you are importing the certificate.

b. Click *Next*.

7. The Completed Successful window will appear.
8. Click *Finish*. The DSView Server Certificate Properties window will appear containing updated certificate information.

Specifying a DSView software proxy server

1. From the side navigation bar, click *Proxy Server*. The DSView Server Proxy Properties window will appear.

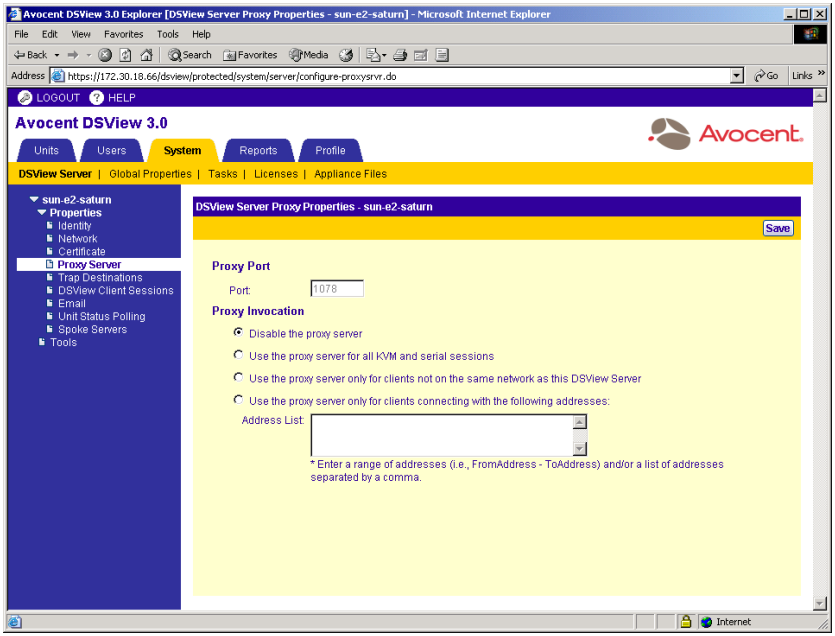

Avocent DSView 3.0 Explorer [DSView Server Proxy Properties - sun-e2-saturn] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/system/server/configure-proxysrv.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
sun-e2-saturn
Properties
Identity
Network
Certificate
Proxy Server
Trap Destinations
DSView Client Sessions
Email
Unit Status Polling
Spoke Servers
Tools
DSView Server Proxy Properties - sun-e2-saturn
Save
Proxy Port
Port: 1078
Proxy Invocation
Disable the proxy server
Use the proxy server for all KVM and serial sessions
Use the proxy server only for clients not on the same network as this DSView Server
Use the proxy server only for clients connecting with the following addresses:
Address List:
* Enter a range of addresses (i.e., FromAddress - ToAddress) and/or a list of addresses separated by a comma.
Internet

Figure 3.7: DSView Server Proxy Properties Window

a. Type a new port number to use for DSView Client communication with the Avocent proxy to the logged in DSView server.

NOTE: If DSView Clients are located on an external connection, the specified TCP/IP proxy port must be opened on you firewall.

b. Select the type of proxy invocation you wish to perform:

- Click *Disable the proxy server* to allow all internal and external DSView Clients to communicate directly with DSR switches or CPS appliances (default).
- Click *Use the proxy server for all KVM and serial sessions* to enable all DSView Clients to communicate with DSR switches or CPS appliances using the DSView proxy server.
- Click *Use the proxy server only for clients not on the same network as this DSView Server* to enable all external and internal clients on a different network than the current DSView Server to communicate with DSR switches or CPS appliances using the DSView proxy server. All other external and internal clients will communicate directly with DSR switches and CPS appliances.

- Click *Use the proxy server only for clients connecting with the following address* to enable only DSView Clients with IP addresses entered in the Address List to communicate with DSR switches and CPS appliances using the DSView proxy server. All other clients communicate directly with DSR switches and CPS appliances.

2. Click *Save*. A confirmation dialog box will appear.

NOTE: Changing the Proxy Port or Proxy Invocation setting will disconnect active DSView Client sessions.

3. Click *OK* to save your changes.

   -or-

   Click *Cancel* to cancel the action.

Specifying trap destinations

1. From the side navigation bar, click *Trap Destinations*. The DSView Server Trap Destinations window will appear.

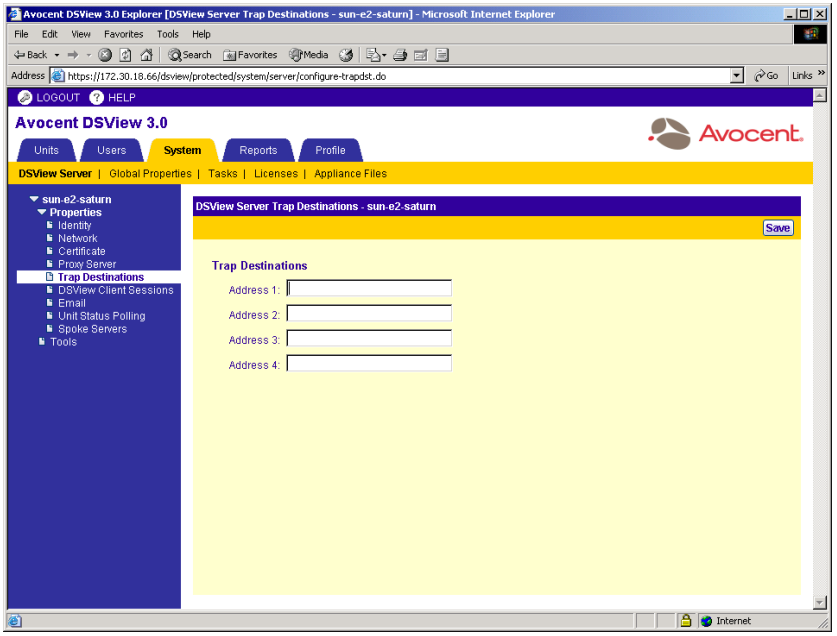


Figure 3.8: DSView Server Trap Destinations Window

2. In each address field, type the IP addresses in standard dot notation (xx.xx.xx.xx) or the domain name for the computer that handle traps. Up to four computers may be specified.
3. Click *Save* to store the trap information in the DSView software database on the host.

Specifying DSView Client session information

To specify DSView Client session information:

1. From the side navigation bar, click *DSView Client Sessions*. The DSView Server Client Session Properties window will appear.

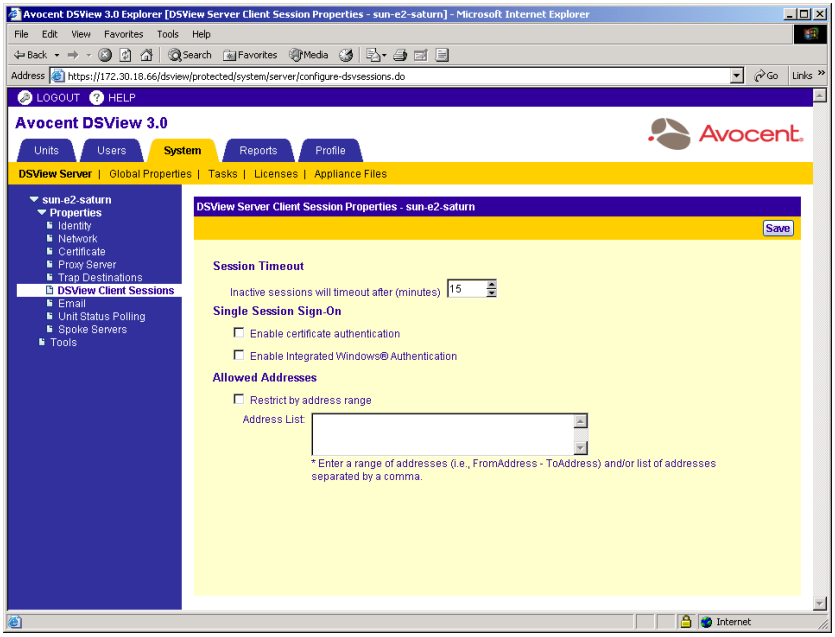


Figure 3.9: DSView Server Client Session Properties Window

a. Use the arrows to specify a time-out value (from 5-60 minutes) for inactivity of a DSView user Client session. The default is 15 minutes. When the time-out value has been exceeded, the session will end and the DSView user must log in again.

b. Select the *Enable certificate authentication* to allow the DSView software to automatically log in internal DSView users if the user certificate (X.509 digital ID) installed in the DSView Client web browser matches the certificate configured for the DSView user. Certificates for DSView users may be modified using the User Certificate window. See *Modifying the certificates associated with DSView users* on page 233 for more information.

NOTE: Web browser settings may need to be modified to allow DSView users to automatically login using certificates. See your web browser documentation for more information.

-or-

Do not select *Enable certificate authentication*. The DSView user must explicitly log in unless Enable integrated windows authentication is selected.

c. Select *Enable Integrated Windows Authentication* to automatically log a DSView User into the DSView software using their NT domain credentials and Integrated Windows Authentication.

NOTE: Web browser settings may need to be modified to allow DSView users to automatically login using Integrated Windows Authentication. See your web browser documentation for more information.

-or-

Do not select *Enable Integrated Windows Authentication* if you wish to require DSView users to explicitly log in to the DSView management software.

d. Select *Restrict by address range* to enable only DSView Clients with IP addresses entered in the Address List to communicate with DSR switches and CPS appliances.

-or-

Do not select Restrict by address range to disable address restrictions for logging into the DSView software.

2. Click *Save* to store DSView Client session information in the DSView software database on the host.

Specifying email properties

To specify email properties:

1. From the side navigation bar, click *Email*. The DSView Server Email Server Properties window will appear.

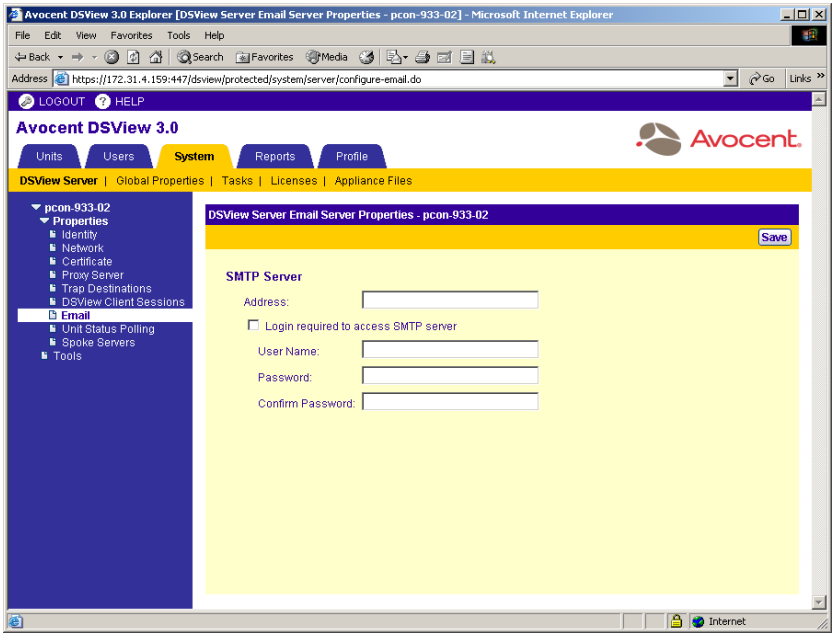


Figure 3.10: DSView Server Email Server Properties Window

2. Type a new address for the SMTP server that sends email notifications as a domain name or an IP address in standard dot notation (xx.xx.xx.xx).
3. If your SMTP server requires login credentials, select *Login required to access SMTP server* and type a user name and password, then confirm the password.
4. Click *Save* to store DSView software email property information in the DSView software database on the host.

Using unit status polling

To use unit status polling:

1. From the side navigation bar, click *Unit Status Polling*. The DSView Server Unit Status Polling Properties window will appear.

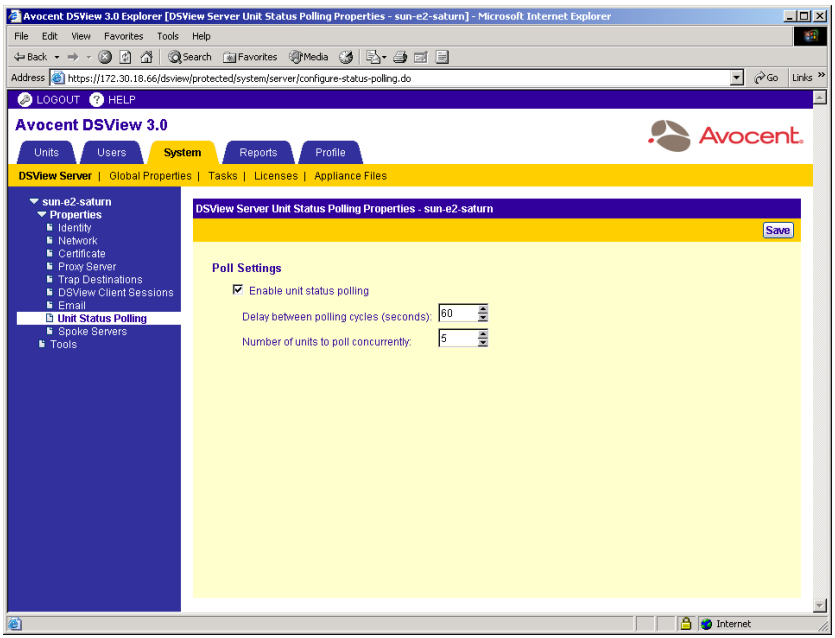


Figure 3.11: DSView Server Unit Status Polling Properties Window

2. Select *Enable unit status polling*.
3. Type the number of seconds to wait between pollings (from 30- 999 seconds). The default is 900 seconds (15 minutes).

NOTE: Change this number to a smaller value for greater accuracy.

4. Type the number of managed appliances that may simultaneously be polled to obtain status information (from 1-25 units). The default is 5.

NOTE: Use a larger number for a faster speed.

5. Click *Save* to store DSView software unit status property information in the DSView software database on the host.

Manually Backing up and Restoring Hub DSView Servers

If your DSView software is installed on a Windows based operating system, you may manually create a backup of your Hub DSView Server. You may create the backup using one of the following methods:

- From a command line in an MS-DOS window
- Using the Backup and Restore Utility delivered with the DSView software. The backup is saved as a .zip file containing the files needed to restore the DSView software.

NOTE: Hub DSView Server backups may also be automatically created as a task within the DSView software. See *Managing Tasks* on page 368 for more information.

NOTE: DSView Client sessions will be temporarily disconnected during a manual backup. The sessions will be automatically reconnected when the backup is completed. DSView Client sessions will not be temporarily disconnected if backups are made using the Backups created using the *Backup DSView database and system files* task. See *Managing Tasks* on page 368 for more information.

NOTE: You must have DSView Administrator privileges to back up the Hub DSView Server.

To manually back up or restore a Hub DSView Server using a command line:

1. Select *Start* - *Programs* - *Accessories* - *Command Prompt*. A command prompt window will open.
2. Change directories to the directory in which the DSView software is installed (typically C:\Program Files\Avocent DSView 3.0\bin).
3. Enter **DSViewBackupRestore** to display the DSView 3.0 Backup/Restore Utility dialog box. Follow the directions in *To manually back up a Hub DSView Server using the Backup and Restore Utility dialog box* to back up the Hub DSView Server using the dialog box or *To manually restore a Hub DSView Server using the Backup and Restore Utility dialog box* to restore the Hub DSView Server using the dialog box.

   -or-

   Enter **DSViewBackupRestore -backup -archive “<archive name>” -passwd** to back up the Hub DSView Server.

   -or-

   Enter **DSViewBackupRestore -restore -archive “<archive name>” -passwd** to restore the Hub DSView Server. Where:

   - “<archive name>” - The name of the archive, which must be enclosed by quotation marks (for example, “myarchive”). The -archive option and an archive name are required to create or restore a Hub DSView Server backup.
   - -passwd - A password which encrypts the archive. The password is optional when creating a backup. The password is required when restoring a backup that was created using a password.

NOTE: Type **DSViewBackupRestore -h** or **DSViewBackupRestore -help** to display help information.

Examples

Entering the following in a command prompt window will create a backup named db.zip with a password of test:

DSViewBackupRestore.exe -backup -archive "db.zip" -password test

Entering the following in a command prompt window will restore a backup named db.zip with a password of test:

DSViewBackupRestore.exe -restore -archive "db.zip" -password test

To manually back up a Hub DSView Server using the Backup and Restore Utility dialog box:

1. Select *Start - Programs - Avocent DSView 3.0 - Backup and Restore Utility.* The DSView 3.0 Backup/Restore Utility dialog box will appear.

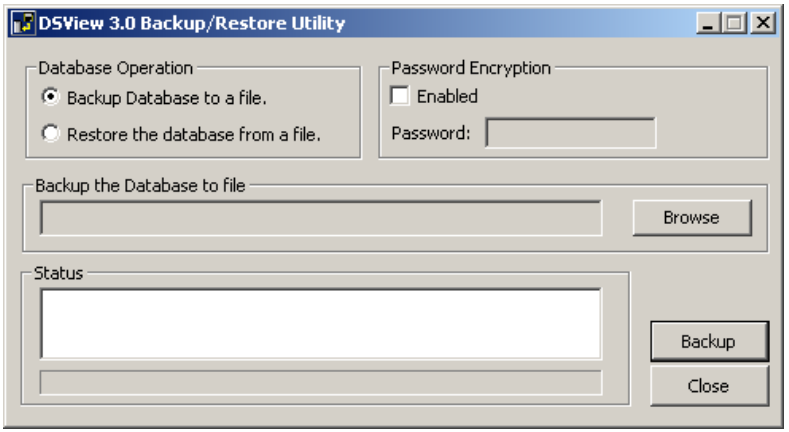


Figure 3.12: DSView 3.0 Backup/Restore Utility Dialog Box

2. From the DSView 3.0 Backup/Restore Utility dialog box, Click *Backup Database to a file*.
3. If you wish to password-protect the backup file, click *Enabled* and type a password in the *Password* field.
4. Click *Browse* and use the Save As dialog box to specify a directory and name for the backup file. Click *Save* when you are finished.
5. Click *Backup*. The DSView system backup files are saved.
6. Click *Close* to dismiss the DSView 3.0 Backup/Restore Utility dialog box.

To manually restore a Hub DSView Server using the Backup and Restore Utility:

1. Select *Start - Programs - Avocent DSView 3.0 - Backup and Restore Utility.* The DSView 3.0 Backup/Restore Utility dialog box will appear.
2. From the DSView 3.0 Backup/Restore Utility dialog box, Click *Restore the database from a file*.
3. If the backup file is password-protect, click *Enabled* and type its password in the *Password* field.
4. Click *Browse* and use the Save As dialog box to find the backup file.
5. Click *Restore*. The DSView system is restored from the backup files.
6. Click *Close* to dismiss the DSView 3.0 Backup/Restore Utility dialog box.

Managing Authentication Services

A DSView user must be authenticated before they may access or perform any tasks within the DSView system.

When the DSView user logs in, they will be prompted for a username and password. The DSView software will look up the login, determine the authentication service to use and forward the login credentials to the appropriate authentication service for verification. All authentication is performed over a HTTPS (SSL) encrypted link.

NOTE: Some web browsers may store password information. See your web browser documentation for more information.

The DSView software is delivered with the DSView Internal authentication service, which verifies a log in and password against user account information stored in the DSView software database on the DSView Server. The DSView Internal authentication service may store over 2000 DSView user accounts.

The DSView software also supports the following external authentication services:

- Microsoft Active Directory *
- IBM® SecureWay Directory Server *
- Novell® LDAP Services *
- Sun® Solaris™ R9 LDAP Directory Server *
- Sun ONE™ LDAP Directory Server *
- Microsoft Windows NT domain

* Uses LDAP V3

If the DSView Server is configured for external authentication, login requests are re-directed to the configured external authentication server.

Up to 50 external authentication servers may be added to the DSView software. When a DSView user logs in to the DSView software, the DSView user is validated using the applicable authentication server.

The User Authentication Services window lists all of the authentication services that are configured for the DSView user. The User Authentication Services window may be customized to also show the properties specified within the authentication services by clicking the *Customize* button. See *Using the Customize Link in DSView Software Windows* on page 15 for more information on customizing windows.

The DSView software allows you to schedule a task that will automatically verify LDAP and Active Directory external authentication servers to ensure that accounts are still valid. See *Managing Tasks* on page 368 for more information.

To view authentication services in the DSView software:

1. From the DSView 3.0 Explorer, click the *Users* tab.
2. From the top navigation bar, click *Authentication Services*. The User Authentication Services window will appear.

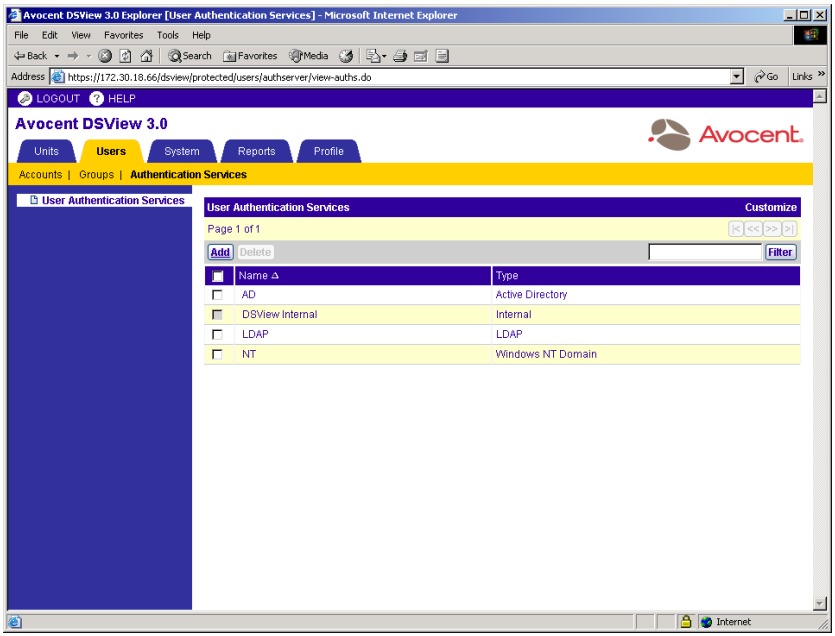


Figure 3.13: User Authentication Services Window

Adding an external authentication service

NOTE: Only User Administrators and DSView Administrators may add authentication services.

You may add one or more of the following external authentication services using the DSView software:

- Active Directory
- LDAP
- Windows NT

To add an Active Directory external authentication service:

1. From the User Authentication Services window, click *Add*. The Welcome page of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

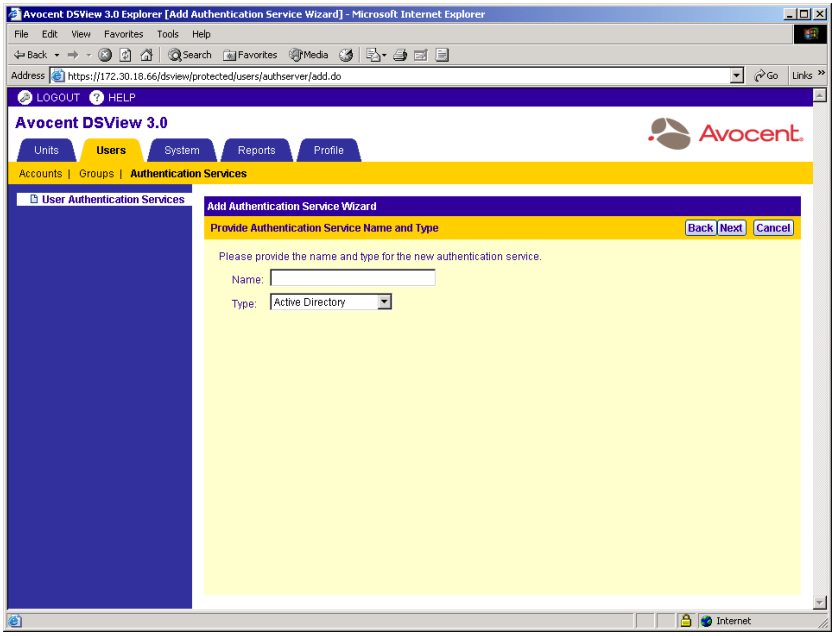

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Provide Authentication Service Name and Type
Back Next Cancel
Please provide the name and type for the new authentication service.
Name:
Type: Active Directory
Internet

Figure 3.14: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

a. Type a name for the external authentication service.
b. Select *Active Directory* from the drop-down menu.
c. Click *Next*.

3. The Specify Active Directory Connection Settings window will appear.

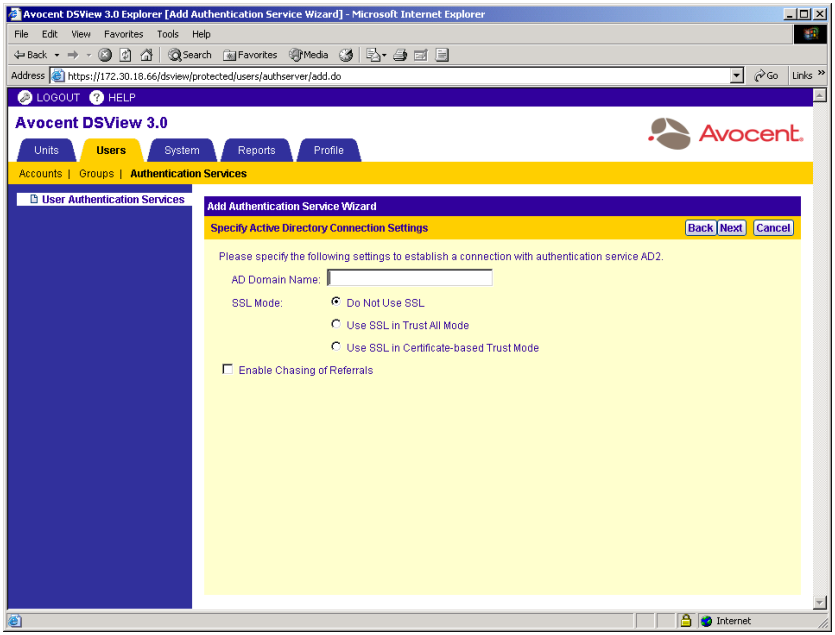

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Specify Active Directory Connection Settings
Back Next Cancel
Please specify the following settings to establish a connection with authentication service AD2.
AD Domain Name:
SSL Mode:
Do Not Use SSL
Use SSL in Trust All Mode
Use SSL in Certificate-based Trust Mode
Enable Chasing of Referrals
Internet

Figure 3.15: Add Authentication Service Wizard - Specify Active Directory Connection Settings Window

a. Type the Active Directory domain name for the domain you wish to add in the Add Domain Name field.

b. Specify a Secure Socket Layer (SSL) Encryption mode:

- Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure.
- Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView software for transmitting data. This SSL method provides medium security.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security.

c. Click *Enable Chasing of Referrals* if you wish to allow the Active Directory server to refer DSView Clients to additional directory servers.

d. Click *Next*.

If you selected *Use SSL in Certificate-based Trust Mode*, continue to step 44.

If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 6.

4. The Accept Certificate window will appear and list all servers that belong to the domain.

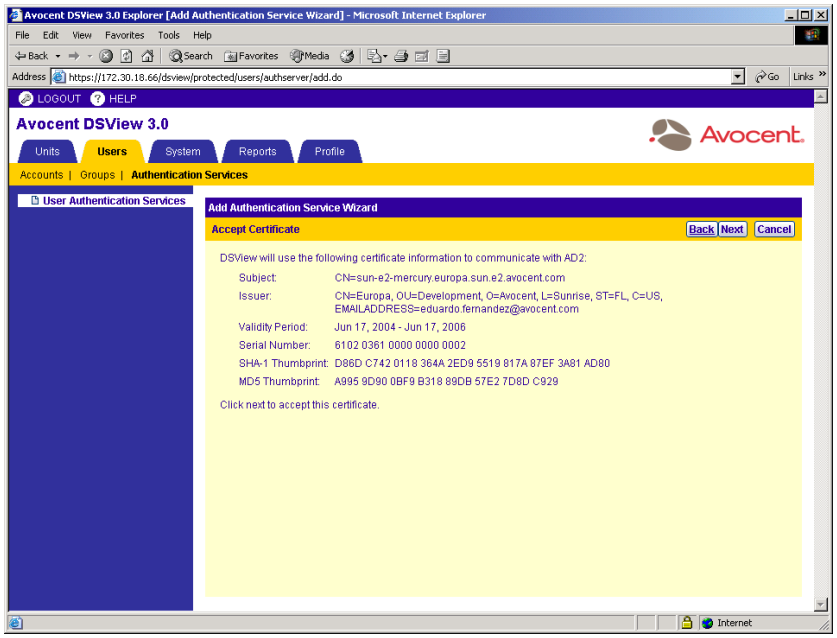

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Accept Certificate
Back Next Cancel
DSView will use the following certificate information to communicate with AD2:
Subject: CN=sun-e2-mercury.europa.sun.e2.avocent.com
Issuer: CN=Europa, OU=Development, O=Avocent, L=Sunrise, ST=FL, C=US, EMAILADDRESS=eduardo.fernandez@avocent.com
Validity Period: Jun 17, 2004 - Jun 17, 2006
Serial Number: 6102 0361 0000 0000 0002
SHA-1 Thumbprint: D86D C742 0118 364A 2ED9 5519 817A 87EF 3A81 AD80
MD5 Thumbprint: A995 9D90 0BF9 B318 89DB 57E2 7D8D C929
Click next to accept this certificate.
Internet

Figure 3.16: Add Authentication Service Wizard - Accept Certificate Window

5. Click *Next* to accept the certificate.

6. The Select Browsing Method window will appear.

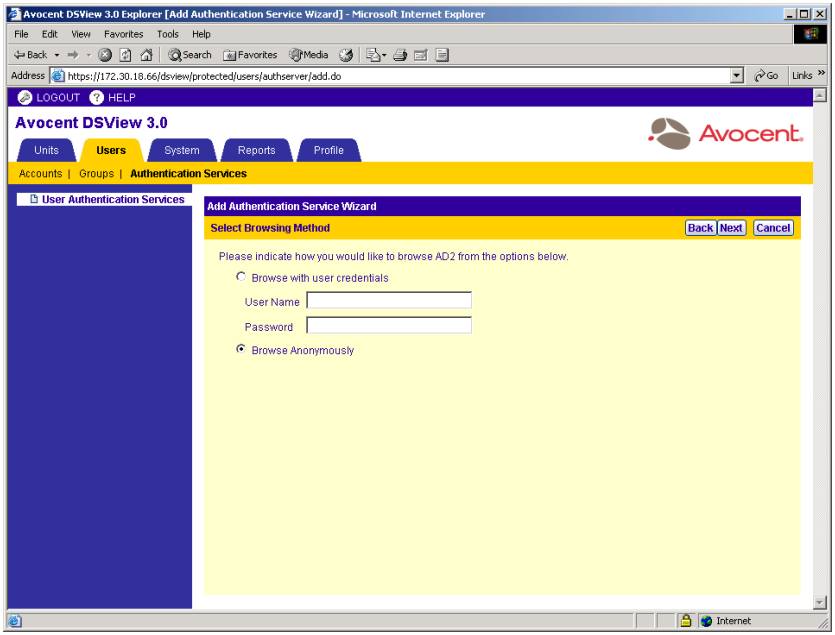

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Select Browsing Method
Back Next Cancel
Please indicate how you would like to browse AD2 from the options below.
Browse with user credentials
User Name
Password
Browse Anonymously
Internet

Figure 3.17: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external Active Directory authentication server.

-or-

Click *Browse with User Credentials* to browse users on the external Active Directory authentication based on credentials configured on the server. If this option is selected, do the following:

a. Type the username for an Active Directory account that has browse rights in the User Name field.

NOTE: The log in ID must be entered in case-sensitive text if the Active Directory server is set up to support case-sensitive filenames.

b. Type the password for an Active Directory account that has browse rights in the Password field.

c. Click *Next*.

7. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.

8. Click *Finish*. The User Authentication Services window will appear with the new service listed.

To add a Windows NT external authentication service:

1. From the User Authentication Services window, click *Add*. The Welcome page of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

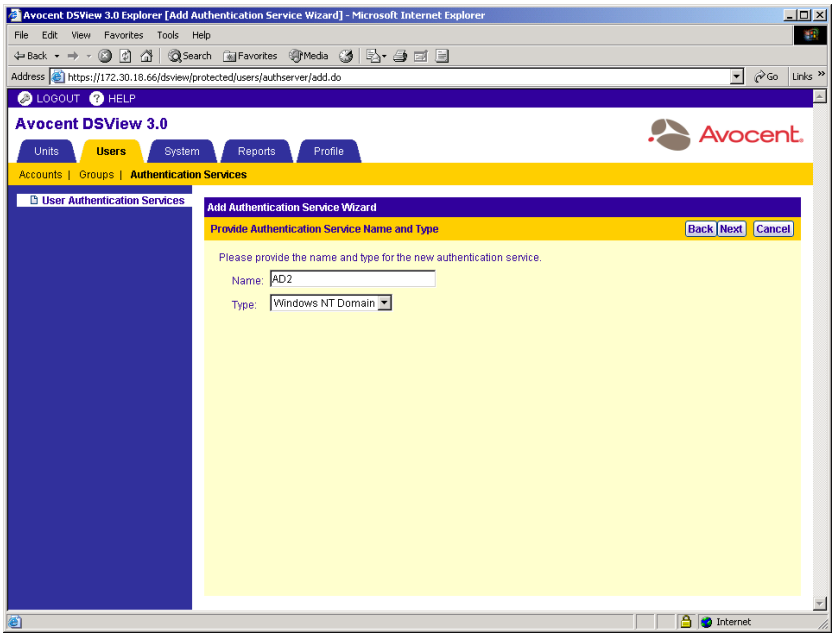

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Provide Authentication Service Name and Type
Back Next Cancel
Please provide the name and type for the new authentication service.
Name: AD2
Type: Windows NT Domain
Internet

Figure 3.18: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

a. Type a name for the external authentication service.
b. Select *Windows NT Domain* from the drop-down menu:
c. Click *Next*.

3. The Specify Windows NT Connection Settings window will appear.

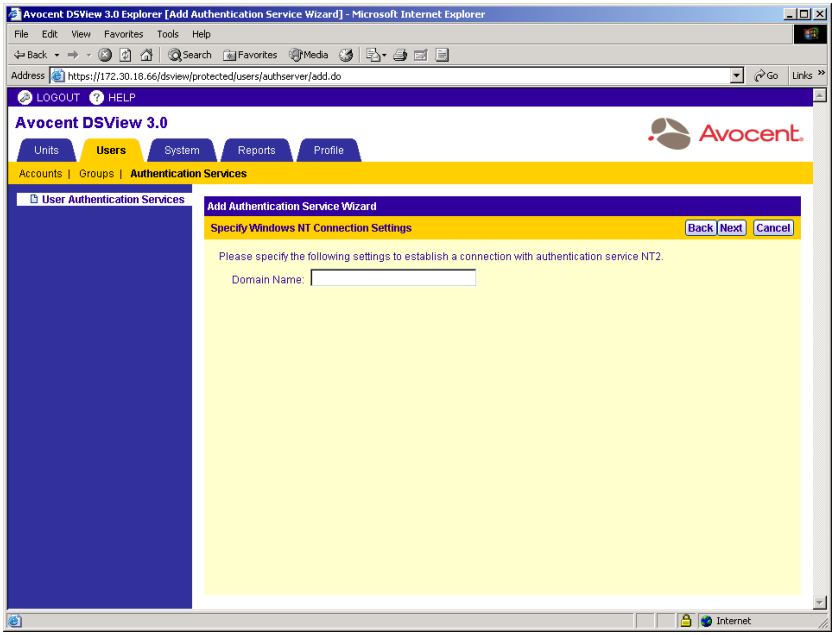

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Specify Windows NT Connection Settings
Back Next Cancel
Please specify the following settings to establish a connection with authentication service NT2.
Domain Name:
Internet

Figure 3.19: Add Authentication Service Wizard - Specify Windows NT Connection Settings Window

a. Type the Windows NT domain name you wish to add in the Domain Name field.
b. Click *Next*.

4. The Select Browsing Method window will appear.

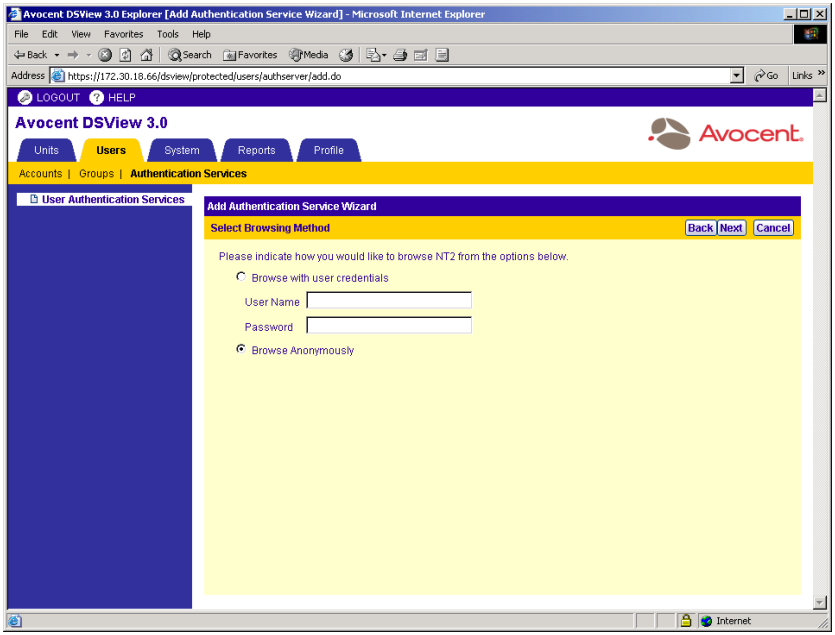

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Select Browsing Method
Back Next Cancel
Please indicate how you would like to browse NT2 from the options below.
Browse with user credentials
User Name
Password
Browse Anonymously
Internet

Figure 3.20: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external Windows NT authentication server.

-or-

Click *Browse with User Credentials* to browse users on the external Windows NT authentication based on credentials configured on the server. If this option is selected, do the following:

a. Type the username for a Windows NT account that has browse rights in the User Name field.

NOTE: The log in ID must be entered in case-sensitive text if the Windows NT server is set up to support case-sensitive filenames.

b. Type the password for a Windows NT account that has browse rights in the Password field.

c. Click *Next*.

5. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.

6. Click *Finish*. The User Authentication Services window will appear with the new service listed.

To add an LDAP external authentication service:

1. From the User Authentication Services window, click *Add*. The Welcome page of the Add Authentication Service Wizard will appear. Click *Next*.
2. The Provide Authentication Service Name and Type window will appear.

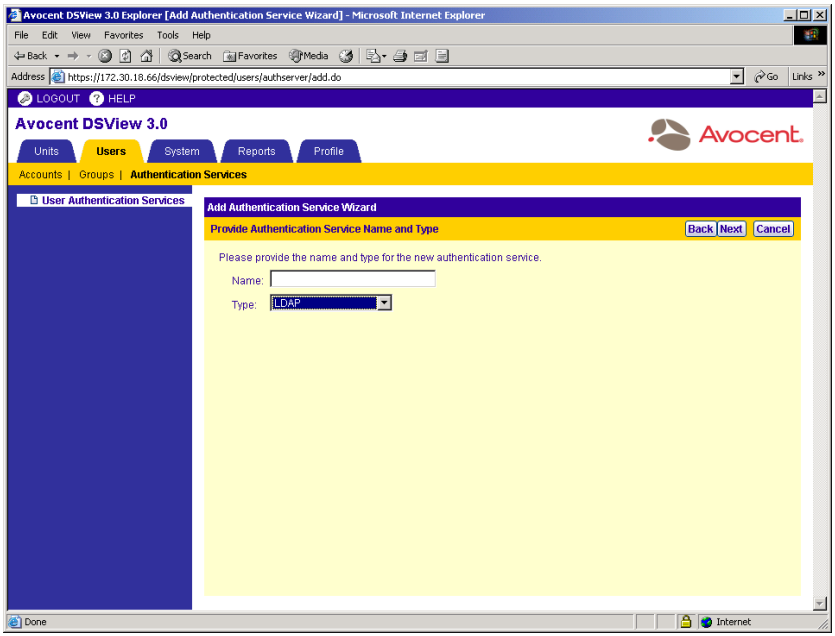

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Provide Authentication Service Name and Type
Back Next Cancel
Please provide the name and type for the new authentication service.
Name:
Type: LDAP
Done
Internet

Figure 3.21: Add Authentication Service Wizard - Provide Authentication Service Name and Type Window

a. Type a name for the external authentication service.
b. Select *LDAP* from the drop-down menu.
c. Click *Next*.

3. The Specify LDAP Connection Settings window will appear.

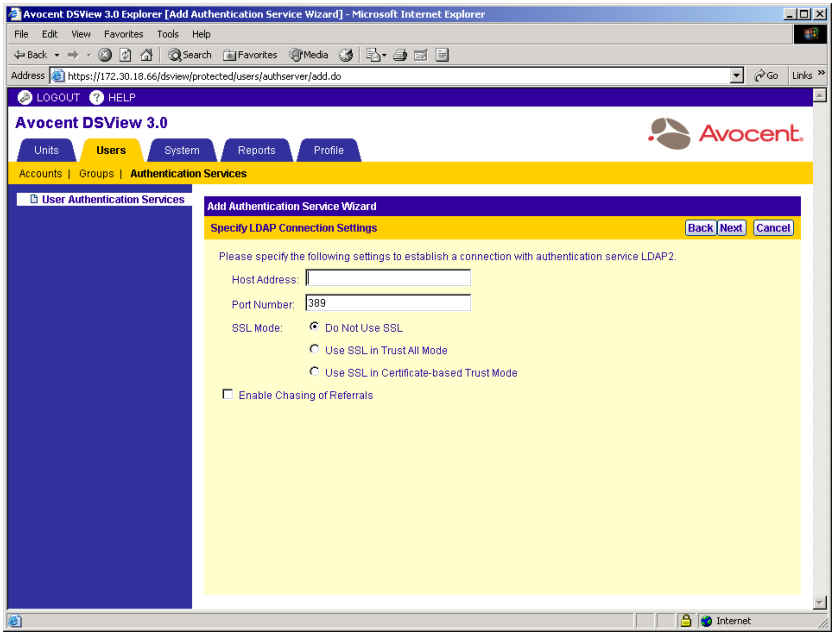

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Specify LDAP Connection Settings
Back Next Cancel
Please specify the following settings to establish a connection with authentication service LDAP2.
Host Address:
Port Number: 389
SSL Mode: Do Not Use SSL
Use SSL in Trust All Mode
Use SSL in Certificate-based Trust Mode
Enable Chasing of Referrals
Internet

Figure 3.22: Add Authentication Service Wizard - Specify LDAP Connection Settings Window

a. Type the address of the LDAP host, in dot notation format (xx.xx.xx.xx) or DNS host name in the Host Address field.

b. Type the number of the port you with to use for connecting to the LDAP host in the Port Number field.

c. Specify a Secure Socket Layer (SSL) Encryption mode:

- Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure and automatically sets the Port Number field to a default port number of 389.
- Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView software for transmitting data. This SSL method provides medium security and automatically sets the Port Number field to a default port number of 636.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security and automatically sets the Port Number field to a default port number of 636.

d. Click *Enable Chasing of Referrals* if you wish to allow the LDAP server to refer DSView Clients to additional directory servers.

e. Click *Next*.

If you selected *Use SSL in Certificate-based Trust Mode*, continue to step 44.

If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 8.

4. The Accept Certificate window will appear and list all servers that belong to the domain.

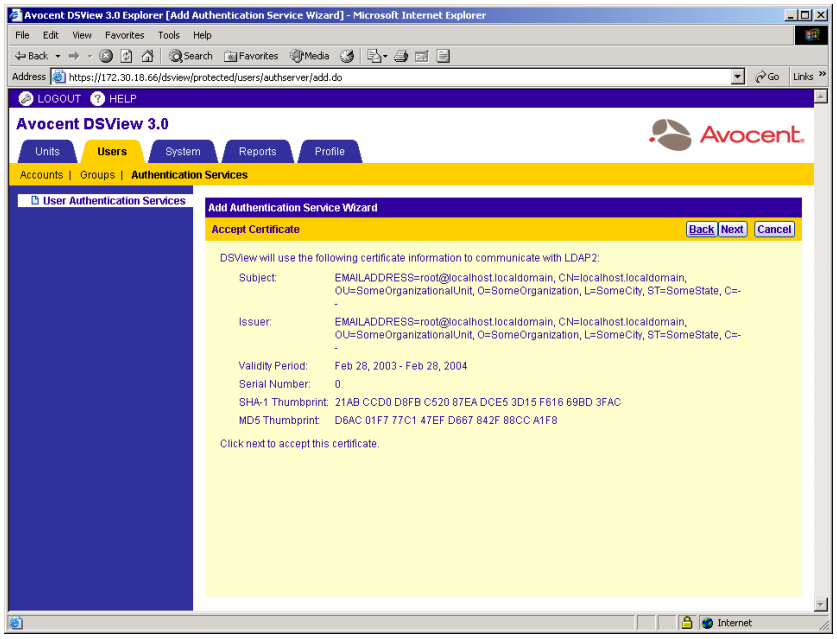

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Accept Certificate
Back Next Cancel
DSView will use the following certificate information to communicate with LDAP2:
Subject: EMAILADDRESS=root@localhost.localdomain, CN=localhost.localdomain, OU=SomeOrganizationalUnit, O=SomeOrganization, L=SomeCity, ST=SomeState, C=-
Issuer: EMAILADDRESS=root@localhost.localdomain, CN=localhost.localdomain, OU=SomeOrganizationalUnit, O=SomeOrganization, L=SomeCity, ST=SomeState, C=-
Validity Period: Feb 28, 2003 - Feb 28, 2004
Serial Number: 0
SHA-1 Thumbprint: 21AB CCD0 D8FB C520 87EA DCE5 3D15 F616 69BD 3FAC
MD5 Thumbprint: D6AC 01F7 77C1 47EF D667 842F 88CC A1F8
Click next to accept this certificate.
Internet

Figure 3.23: Add Authentication Service Wizard - Accept Certificate Window

5. Click *Next* to accept the certificate.

6. The Specify LDAP User Schema window will appear.

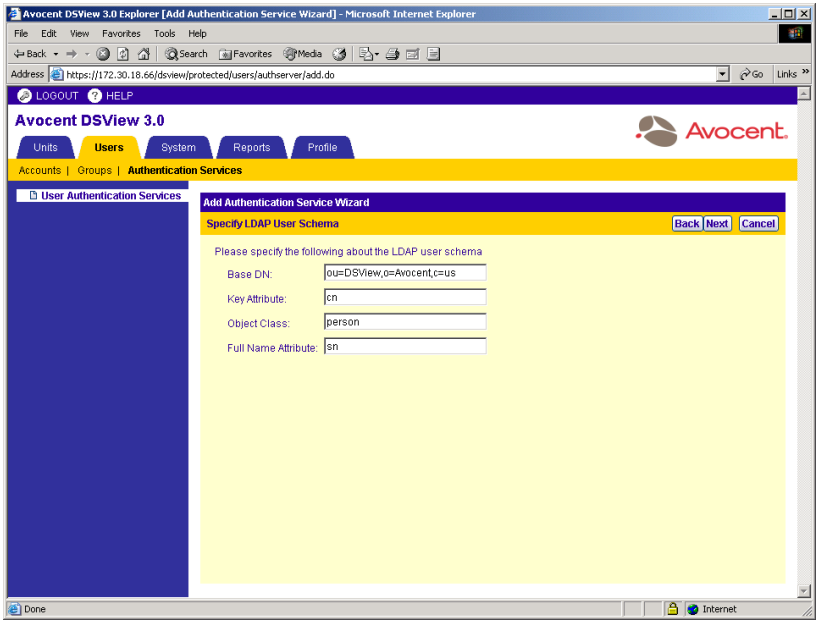


Figure 3.24: Add Authentication Service Wizard - Specify LDAP User Schema Window

a. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

b. Type the key attribute. The default value is common name (cn).

c. Type the object class. The default value is person.

d. Type the full name attribute. The default value is surname (sn).

e. Click *Next*.

7. The LDAP Group Schema window will appear.

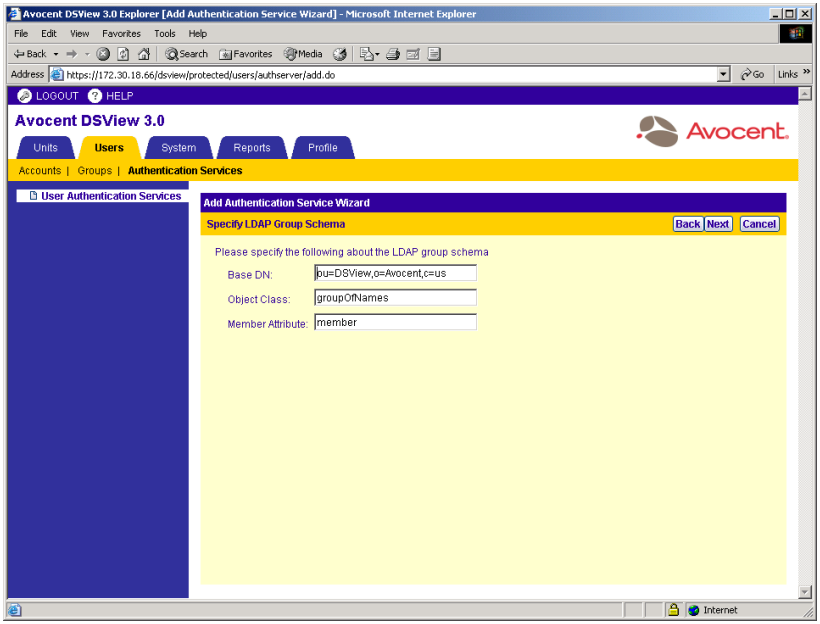

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Specify LDAP Group Schema
Back Next Cancel
Please specify the following about the LDAP group schema
Base DN: ou=DSView,o=Avocent,c=us
Object Class: groupOfNames
Member Attribute: member
Internet

Figure 3.25: Add Authentication Service Wizard - LDAP Group Schema Window

a. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

b. Type the object class. The default value is group.

c. Type the member attribute. The default value is member.

d. Click *Next*.

8. The Select Browsing Method window will appear.

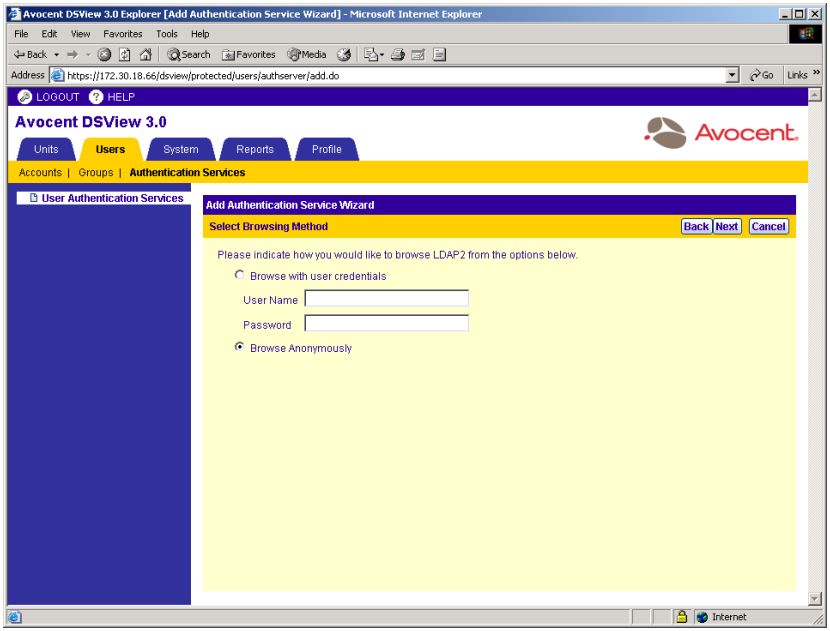

Avocent DSView 3.0 Explorer [Add Authentication Service Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
User Authentication Services
Add Authentication Service Wizard
Select Browsing Method
Back Next Cancel
Please indicate how you would like to browse LDAP2 from the options below.
Browse with user credentials
User Name
Password
Browse Anonymously
Internet

Figure 3.26: Add Authentication Service Wizard - Select Browsing Method Window

Click *Browse Anonymously* to browse users on the external LDAP authentication server.

-or-

Click *Browse with User Credentials* to browse users on the external LDAP authentication based on credentials configured on the server. If this option is selected, do the following:

a. Type a log in ID in the User Name field in the format <name>=<value> with each name and value pair separated by a comma (,). The default log in is cn=Manager,o=Avocent,c=US. The most specific log in IDs should be entered first.

NOTE: The log in ID must be entered in case-sensitive text if the LDAP server is set up to support case-sensitive filenames.

b. Type the password for the LDAP user account in the Password field.

c. Click *Next*.

9. The Establish Connection with Authentication Service window will briefly appear. If the external authentication service is added successfully, the Completed Successful window will appear.

10. Click *Finish*. The User Authentication Services window will appear with the new service listed.

Modifying authentication services

NOTE: Only User Administrators and DSView Administrators may modify authentication services.

Modifying the DSView Internal authentication service

The following options may be modified for the DSView Internal authentication service:

- Account Policies - Specifies password criteria and lockout policies
- Custom Field Labels - Up to six custom field labels may be assigned for DSView user accounts that use Internal Authentication.

1. From the User Authentication Services window, click *DSView Internal*. The side navigation bar will change to include DSView Internal at the top and, below the name, the information you may define.
2. Click *Account Policies*. The Authentication Service User Account Policies - DSView Internal window will appear.

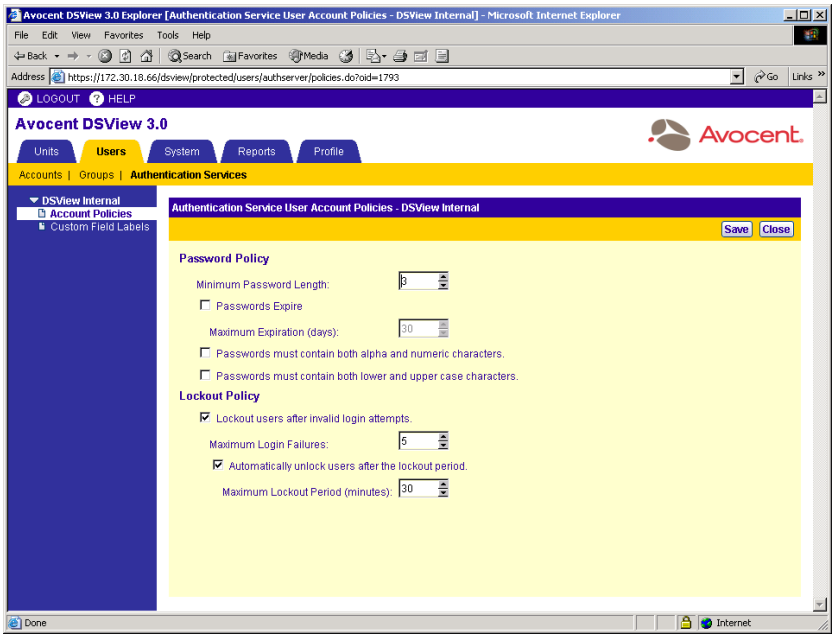

Avocent DSView 3.0 Explorer [Authentication Service User Account Policies - DSView Internal] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/policies.do?oid=1793
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
DSView Internal
Account Policies
Custom Field Labels
Authentication Service User Account Policies - DSView Internal
Save Close
Password Policy
Minimum Password Length: 8
Passwords Expire
Maximum Expiration (days): 30
Passwords must contain both alpha and numeric characters.
Passwords must contain both lower and upper case characters.
Lockout Policy
Lockout users after invalid login attempts.
Maximum Login Failures: 5
Automatically unlock users after the lockout period.
Maximum Lockout Period (minutes): 30
Done
Internet

Figure 3.27: Authentication Service User Account Policies - DSView Internal Window

3. Specify the password policies for the authentication service:
   a. Type a number (from 1-64) in the Minimum Password Length field, or select it using the spinner control.
   b. Check the *Passwords Expire* checkbox if you wish to require a DSView user to change their password after a certain amount of time. Specify the time by typing a number (from 1-365) in the Maximum Expiration (days) field, or select it using the spinner control.
   c. Select *Passwords must contain both alpha and numeric characters* if new passwords must contain at least one letter and one number.
   d. Select *Passwords must contain both lower and upper case characters* if new passwords must contain at least one uppercase and one lowercase letter.
4. Specify the lockout policy for the authentication service:
   a. Select *Lockout users after invalid login attempts* if you wish to allows a DSView user to have a specific number of attempts to log in before being unable to log in to the DSView software. Continue to step b.

      -or-

      Do not select the checkbox if you wish you allow a DSView user unlimited log in attempts. Go to step 6.
   b. Type the number of log in failures to allow a DSView user (from 1-25) in the Maximum Login Failures field, or select it using the drop-down menu.
   c. Select *Automatically unlock users after the lockout period* if you wish to allow a DSView user to attempt log ins after a certain amount of time. Specify the lockout period (in minutes) by typing a number (from 1-1440) in the Maximum Lockout Period (minutes) field, or select it using the drop-down menu.

NOTE: 1440 is equivalent to 24 hours.

      -or-

      Do not select the checkbox if you do not want to specify a lockout period. If you do not specify a lockout period, a User Administrator or Administrator must manually unlock locked DSView user accounts. See *Unlocking DSView User Accounts* on page 232 for more information.
5. Click *Save* to save your changes.
6. Click *Close*. The User Authentication Services window will appear.

To modify custom field labels for internal user accounts:

Up to six custom field labels may be defined for DSView user accounts that use Internal Authentication. The labels may be displayed for use in the User Accounts - All window in any way you wish.

By default, the custom field labels do not display in the User Accounts - All window. To display the labels, use the *Customize* button to add the labels to the window display. See *Using the*

Customize Link in DSView Software Windows on page 15 for information on customizing windows.

1. From the User Authentication Service window, click *DSView Internal*. The side navigation bar will change to include DSView Internal at the top and, below the name, information you may define.
2. From the side navigation bar, click *Custom Field Labels*. The Authentication Service User Account Custom Field Labels - DSView Internal window will appear.

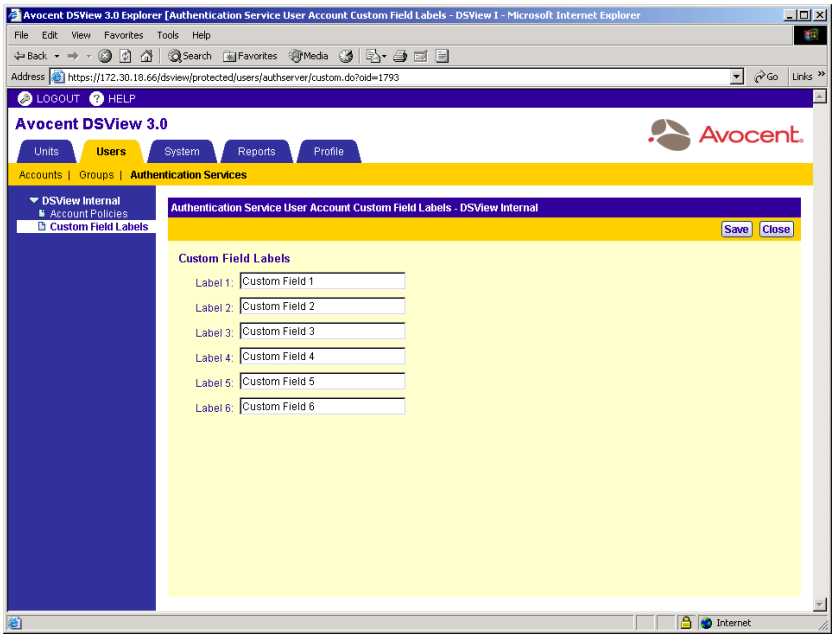

Avocent DSView 3.0 Explorer [Authentication Service User Account Custom Field Labels - DSView I - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/custom.do?oid=1793
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
DSView Internal
Account Policies
Custom Field Labels
Authentication Service User Account Custom Field Labels - DSView Internal
Save Close
Custom Field Labels
Label 1: Custom Field 1
Label 2: Custom Field 2
Label 3: Custom Field 3
Label 4: Custom Field 4
Label 5: Custom Field 5
Label 6: Custom Field 6
Internet

Figure 3.28: Authentication Service User Account Custom Field Labels - DSView Internal Window

3. Type the text that you wish to appear in each of the custom field labels.
4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services window will appear.

Modifying Windows NT external authentication services

The following options may be modified for each Windows NT external authentication service that has been added to the DSView software:

- Connection - Specifies the Windows domain that you wish to use for authentication.
- User Browsing - Specifies how browsing will be performed for DSView users on the authentication service.

To modify connections for Windows NT external authentication services:

1. From User Authentication Services window, click the name of the Windows NT service. The side navigation bar will change to include the name of the Windows NT service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - NT window will appear.

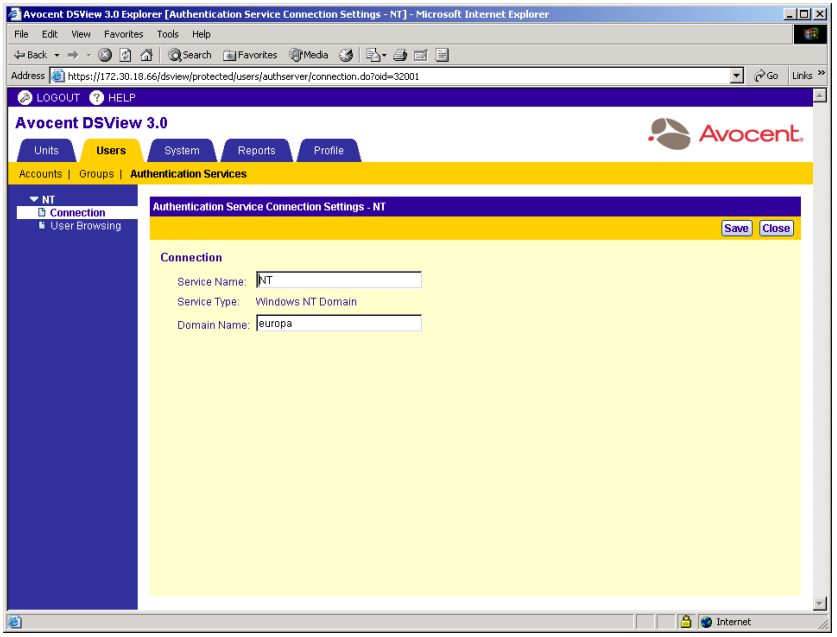


Figure 3.29: Authentication Service Connection Settings - NT Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the name of the Windows NT domain in the Domain Name field.
5. Click *Save* to save your changes.
6. Click *Close*. The User Authentication Services window will appear.

To modify user browsing settings for Windows NT external authentication services:

1. From the User Authentication Services window, click the name of the Windows NT service. The side navigation bar will change to include the name of the Windows NT service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - NT window will appear.

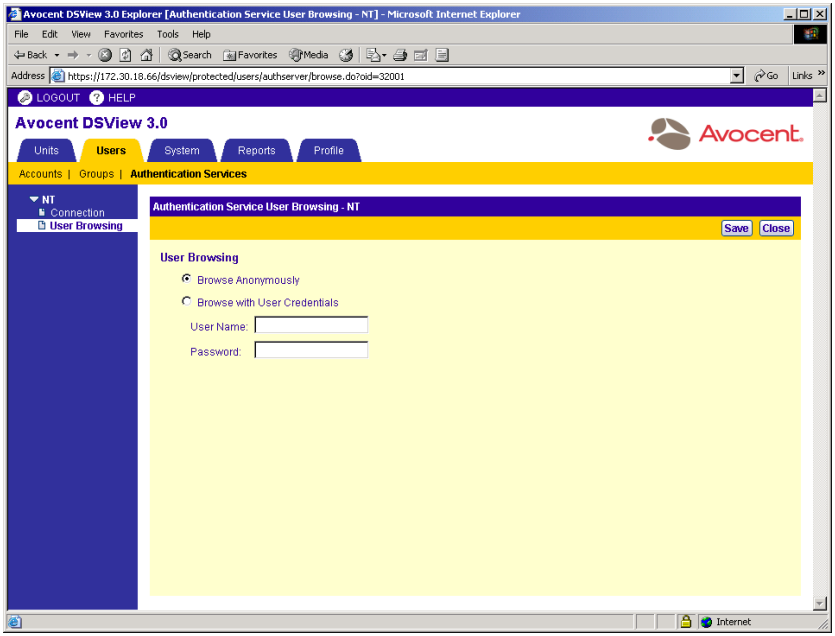


Figure 3.30: Authentication Service User Browsing - NT Window

3. Click *Browse Anonymously* to anonymously browse users on the external Windows NT authentication server.

   -or-

   Click *Browse with User Credentials* to browse users on the external Windows NT authentication based on credentials configured. If this option is selected, do the following:

   a. Type the username for an NT domain account that has browse rights in the User Name field.

   b. Type the password for an NT domain account that has browse rights in the Password field.
4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services dialog box will appear.

Modifying Active Directory external authentication services

The following options may be modified for each Active Directory external authentication service that has been added to the DSView software:

- Connection - Specifies the Active Directory domain and encryption method that you wish to use for authentication. You may also choose to use certificates during authentication.
- User Browsing - Specifies how browsing will be performed for DSView users on the authentication service.

To modify connections for Active Directory external authentication services:

1. From the User Authentication Services window, click the name of the Active Directory service. The side navigation bar will change to include the name of the Active Directory service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - AD window will appear.

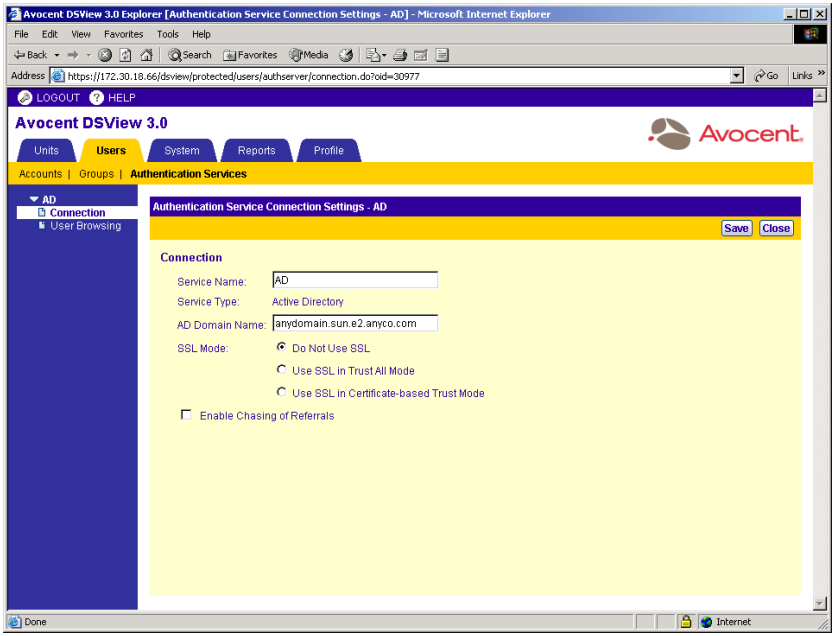


Figure 3.31: Authentication Service Connection Settings - AD Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the domain name of the Active Directory service in the AD Domain Name field.

5. Specify a Secure Socket Layer (SSL) Encryption mode:
   - Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure.
   - Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView software for transmitting data. This SSL method provides medium security.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

   - Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security.
6. Click *Save* to save your changes.

   If you selected *Use SSL in Certificate-based Trust Mode*, Certificates will appear in the side navigation bar. Continue to step 7.

   If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 14.
7. Click *Certificates*. The Authentication Service Certificate Management - AD window will appear and list all servers that in the domain.

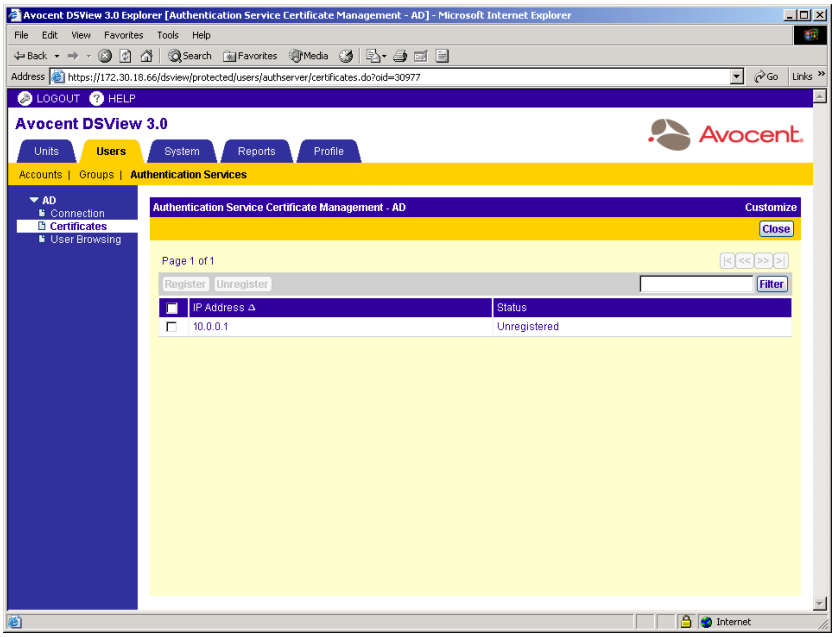


Figure 3.32: Authentication Service Certificate Management - AD Window

8. Click the checkbox to the left of the server IP addresses for which you want to register certificates.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all server IP addresses listed in the window that you wish to register.

9. Click *Register* to register the certificates. The Accept SSL Certificate window will appear.

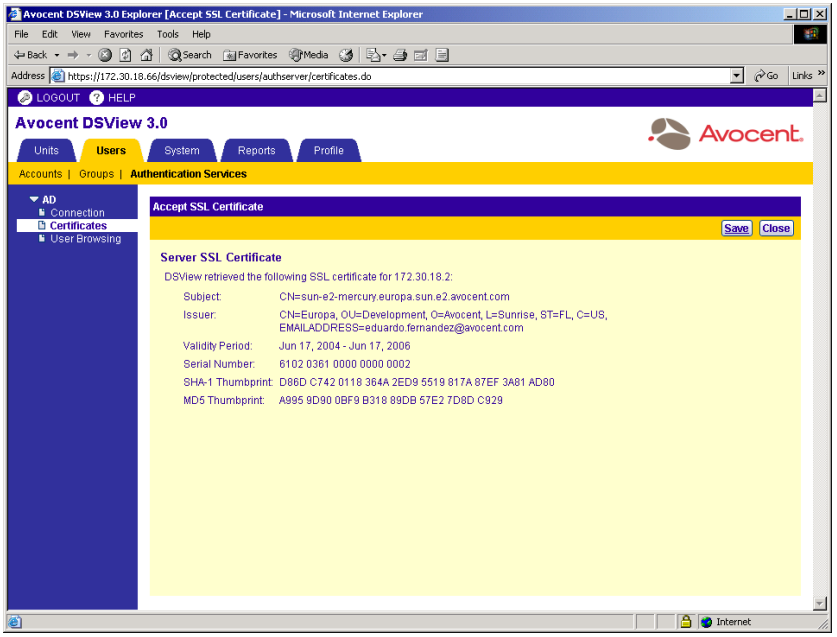

Avocent DSView 3.0 Explorer [Accept SSL Certificate] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/certificates.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
AD
Connection
Certificates
User Browsing
Accept SSL Certificate
Save Close
Server SSL Certificate
DSView retrieved the following SSL certificate for 172.30.18.2:
Subject: CN=sun-e2-mercury.europa.sun.e2.avocent.com
Issuer: CN=Europa, OU=Development, O=Avocent, L=Sunrise, ST=FL, C=US, EMAILADDRESS=eduardo.fernandez@avocent.com
Validity Period: Jun 17, 2004 - Jun 17, 2006
Serial Number: 6102 0361 0000 0000 0002
SHA-1 Thumbprint: D86D C742 0118 364A 2ED9 5519 817A 87EF 3A81 AD80
MD5 Thumbprint: A995 9D90 0BF9 B318 89DB 57E2 7D8D C929
Internet

Figure 3.33: Accept SSL Certificate Window

10. Click *Save* to store the certificate values to the DSView software database on the host.

    -or-

    Click *Close* if you do not wish to save the certificate values.

    The Certificate Management window will appear if this is the only certificate you selected. If more than one certificate was selected, each will appear in order in subsequent Accept SSL Certificate windows.

11. Click the checkbox to the left of the server IP addresses for which you want to unregister certificates.

    -or-

    Click the checkbox to the left of Name at the top of the list to select all server IP addresses listed in the window that you wish to unregister.

12. Click *Unregister* to unregister the certificates.

13. A confirmation message box will appear. Click *OK* to unregister the server.

    -or-

    Click *Cancel* to cancel the action.

14. Click *Close*. The User Authentication Services window will appear.

To modify user browsing settings for Active Directory external authentication services:

15. From the User Authentication Services window, click the name of the Active Directory service. The side navigation bar will change to include the name of the Active Directory service at the top and, below the name, the information you may define.
16. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - AD window will appear.

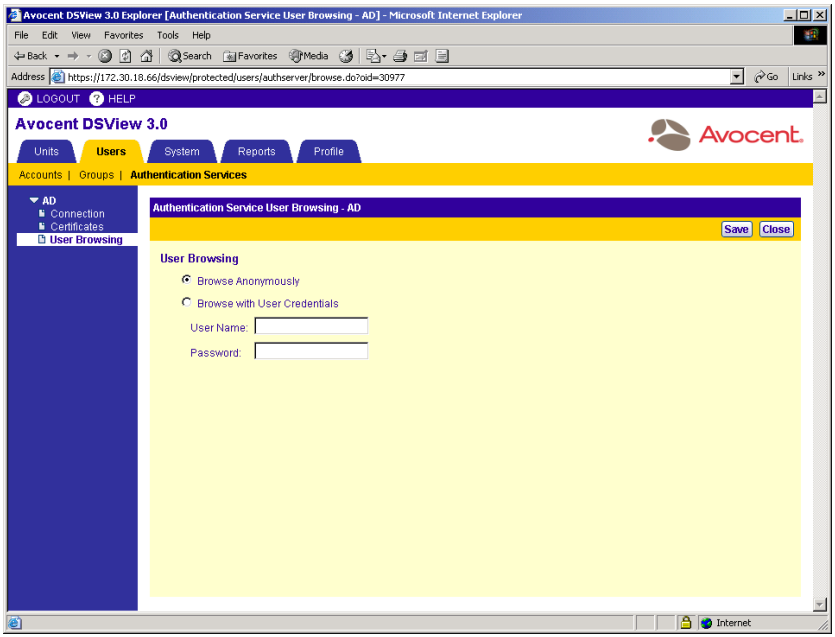


Figure 3.34: Authentication Service User Browsing - AD Window

17. Click *Browse Anonymously* to browse users on the external Active Directory authentication server.

    -or-

    Click *Browse with User Credentials* to browse users on the external Active Directory authentication based on credentials configured on the server. If this option is selected, do the following:

    a. Type the username for an Active Directory account that has browse rights in the User Name field.

    b. Type the password for an Active Directory account that has browse rights in the Password field.

18. Click *Save* to save your changes.
19. Click *Close*. The User Authentication Services dialog box will appear.

Modifying LDAP external authentication services

The following options may be modified each LDAP external authentication service that has been added to the DSView software:

- Connection - Specifies the LDAP domain and encryption method that you wish to use for authentication. You may also choose to use certificates during authentication.
- Schema - Specifies user and group schema settings for the LDAP external authentication service.
- User Browsing - Specifies how browsing will be performed for DSView users on the authentication service.

To modify connections for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.

2. From the side navigation bar, click *Connection*. The Authentication Service Connection Settings - LDAP window will appear.

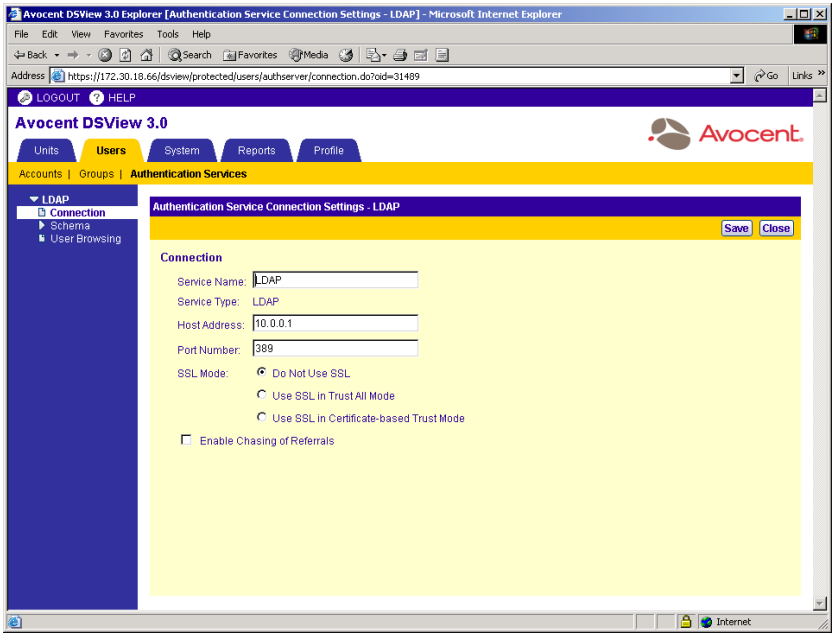


Figure 3.35: Authentication Service Connection Settings - LDAP Window

3. Type a name in the Service Name field to change the name of the service that appears in the Name column of the User Authentication Services window.
4. Type the address of the LDAP host, in dot notation format (xx.xx.xx.xx) in the Host Address field.
5. Type the number of the port you with to use for connecting to the LDAP host in the Port Number field.
6. Specify a Secure Socket Layer (SSL) Encryption mode:
   - Click *Do Not Use SSL* if you wish for authentication to be performed using unencrypted clear text instead of SSL encryption. This method is the least secure and automatically sets the Port Number field to a default port number of 389.
   - Click *Use SSL in Trust All Mode* to use SSL encryption for data transmission. All server certificates will be trusted and automatically accepted by the DSView software for transmitting data. This SSL method provides medium security and automatically sets the Port Number field to a default port number of 636.

NOTE: Use SSL in Trust All Mode is not recommended for wide area networks (WANs).

- Click *Use SSL in Certificate-based Trust Mode* to use SSL encryption for data transmission. The DSView software will approve the server and then the certificate before transmitting data. This SSL method provides maximum security and automatically sets the Port Number field to a default port number of 636.

7. Click *Save* to save your changes.

   If you selected *Use SSL in Certificate-based Trust Mode*, Certificates will appear in the side navigation bar. Continue to step 8.

   If you selected *Do Not Use SSL* or *Use SSL in Trust All Mode*, go to step 15.

8. Click *Certificates*. The Authentication Service Certificate Management - LDAP window will appear and list al servers that belong to the domain.

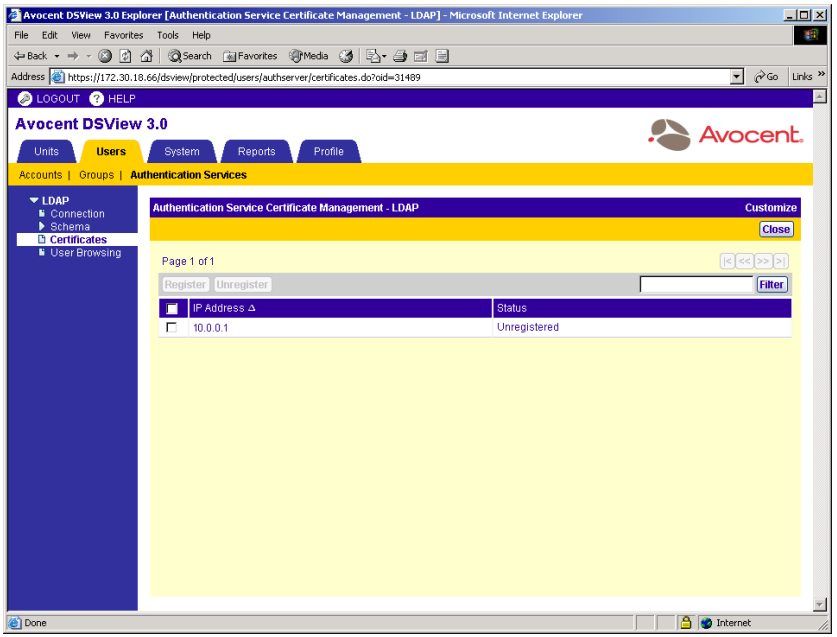


Figure 3.36: Authentication Service Certificate Management - LDAP Window

9. Click the checkbox to the left of the server IP address(es) for which you want to register certificates.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all server IP addresses listed in the window that you wish to register.

10. Click *Register* to register the certificates. The Accept SSL Certificate window will appear.

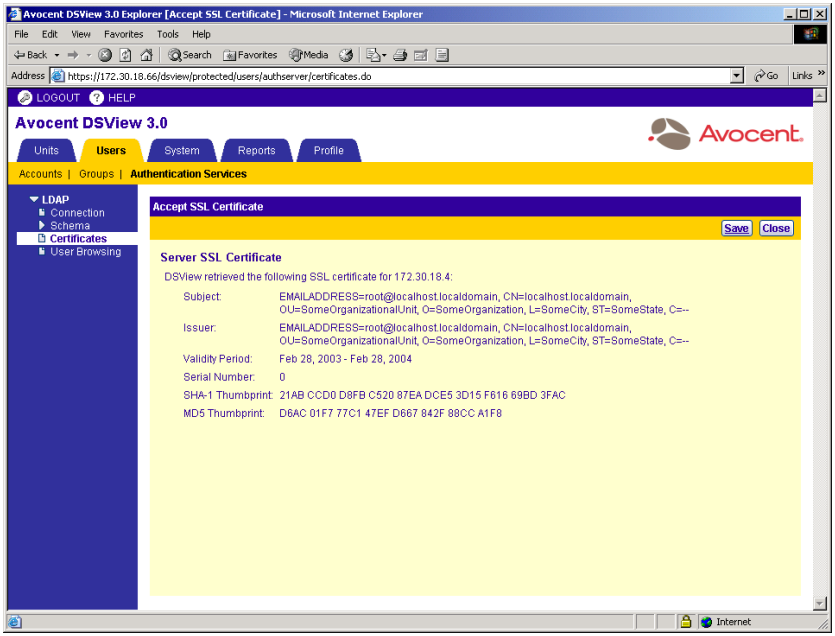

Avocent DSView 3.0 Explorer [Accept SSL Certificate] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/authserver/certificates.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
LDAP
Connection
Schema
Certificates
User Browsing
Accept SSL Certificate
Save Close
Server SSL Certificate
DSView retrieved the following SSL certificate for 172.30.18.4:
Subject: EMAILADDRESS=root@localhost.localdomain, CN=localhost.localdomain, OU=SomeOrganizationalUnit, O=SomeOrganization, L=SomeCity, ST=SomeState, C=--
Issuer: EMAILADDRESS=root@localhost.localdomain, CN=localhost.localdomain, OU=SomeOrganizationalUnit, O=SomeOrganization, L=SomeCity, ST=SomeState, C=--
Validity Period: Feb 28, 2003 - Feb 28, 2004
Serial Number: 0
SHA-1 Thumbprint: 21AB CCD0 D8FB C520 87EA DCE5 3D15 F616 69BD 3FAC
MD5 Thumbprint: D6AC 01F7 77C1 47EF D667 842F 88CC A1F8
Internet

Figure 3.37: Accept SSL Certificate Window

11. Click *Save* to store the certificate values to the DSView software database on the host.

    -or-

    Click *Close* if you do not wish to save the certificate values.

    The Certificate Management window will appear if this is the only certificate you selected. If more than one certificate was selected, each will appear in order in subsequent Accept SSL Certificate windows.

12. Click the checkbox to the left of the server IP address(es) for which you want to unregister certificates.

    -or-

    Click the checkbox to the left of Name at the top of the list to select all server IP addresses listed in the window that you wish to unregister.

13. Click *Unregister* to unregister the certificates.

14. A confirmation message box will appear. Click *OK* to unregister the server.

    -or-

    Click *Cancel* to cancel the action.

15. Click *Close*. The User Authentication Services window will appear.

To modify user schema settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Schema*. *Users* is automatically selected and the Authentication Service User Schema - LDAP window will appear.

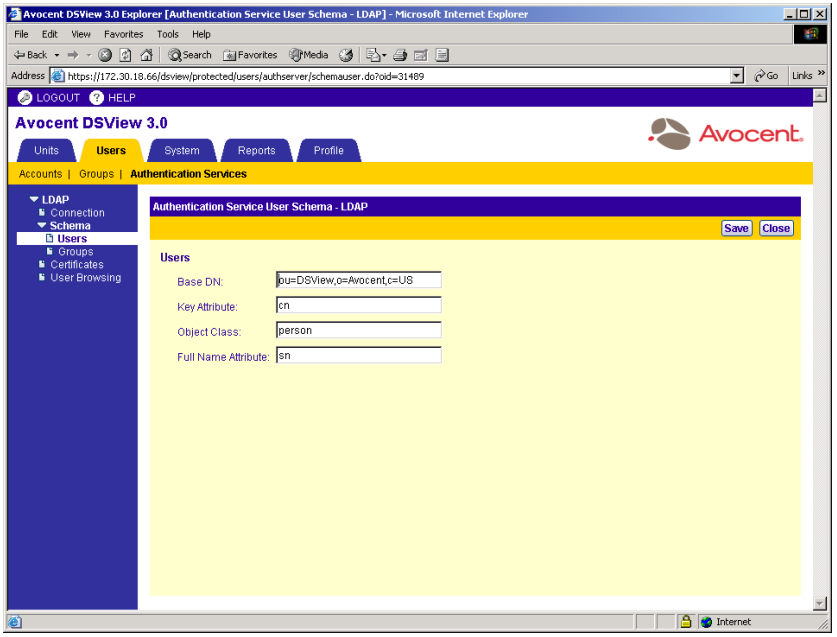


Figure 3.38: Authentication Service User Schema - LDAP Window

3. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.

NOTE: Each Search DN value must be separated by a comma.

4. Type the key attribute. The default value is common name (cn).
5. Type the object class. The default value is person.
6. Type the full name attribute for the DSView user. The default value is surname (sn).
7. Click *Save* to save your changes.
8. Click *Close*. The User Authentication Services dialog box will appear.

To modify group schema settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.
2. From the side navigation bar, click *Schema*.
3. From the side navigation bar, click *Groups*. The Authentication Service Group Schema - LDAP window will appear.

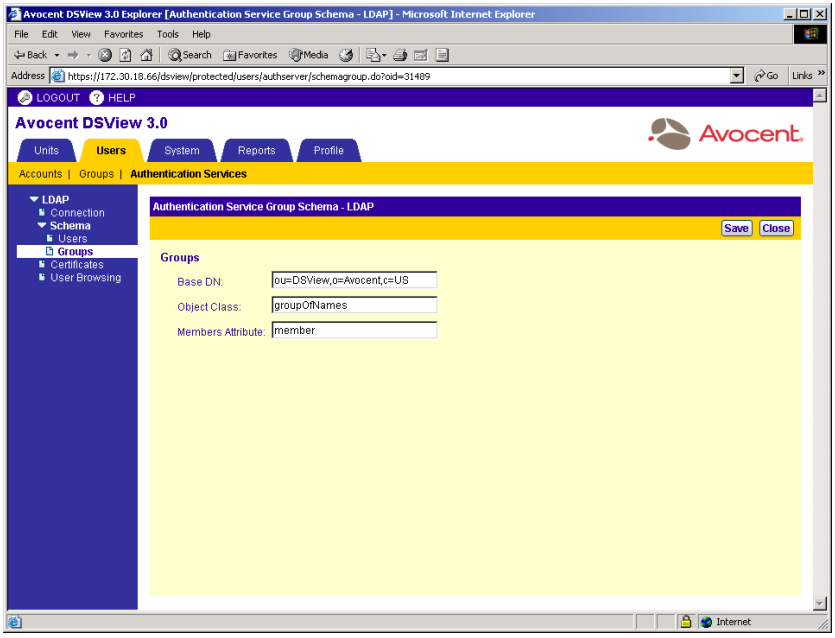


Figure 3.39: Authentication Service Group Schema - LDAP Window

4. Type the Base distinguished name (DN) from which to begin searches. This is a required field unless the Directory Service has been configured to allow anonymous search.
5. Type the object class. The default value is group.
6. Type the members attribute. The default value is member.
7. Click *Save* to save your changes.
8. Click *Close*. The User Authentication Services dialog box will appear.

To modify user browsing settings for LDAP external authentication services:

1. From the User Authentication Services window, click the name of the LDAP service. The side navigation bar will change to include the name of the LDAP service at the top and, below the name, the information you may define.

2. From the side navigation bar, click *User Browsing*. The Authentication Service User Browsing - LDAP window will appear.

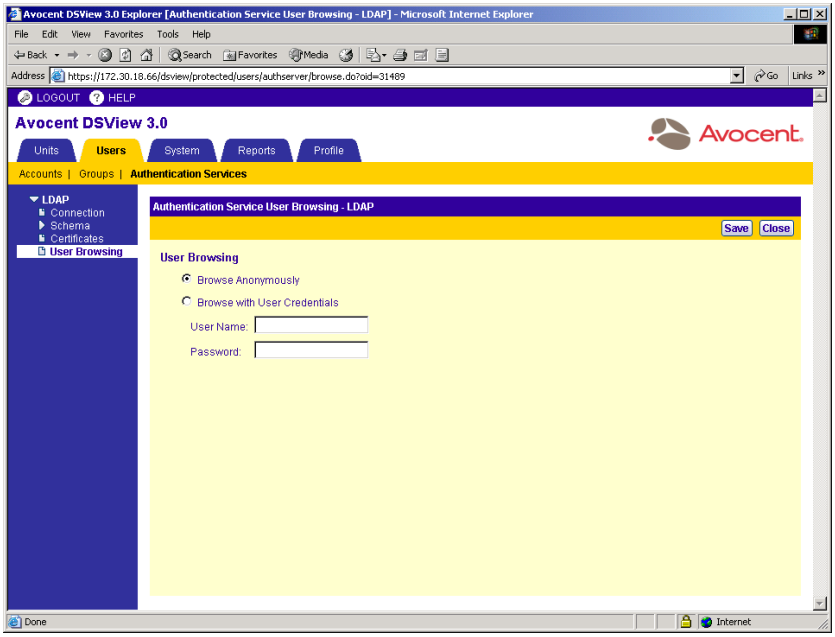


Figure 3.40: Authentication Service User Browsing - LDAP Window

3. Click *Browse Anonymously* to browse users on the external LDAP authentication server.

   -or-

   Click *Browse with User Credentials* to browse users on the external LDAP authentication based on credentials configured on the server. If this option is selected, do the following:

   a. Type a log in ID in the User Name field in the format <name>=<value> with each name and value pair separated by a comma (,). The default log in is cn=Manager,o=Avocent,c=US. The most specific log in IDs should be entered first.

NOTE: The log in ID must be entered in case-sensitive text if the LDAP server is set up to support case-sensitive filenames.

   b. Type the password for the LDAP user account in the *Password* field.

4. Click *Save* to save your changes.
5. Click *Close*. The User Authentication Services dialog box will appear.

Removing authentication services

NOTE: Only User Administrators and DSView Administrators may remove authentication services.

The DSView Internal authentication service is resident in the DSView software and may not be deleted.

To remove authentication services:

1. From the User Authentication Services window, click the checkbox to the left of the authentication service(s) you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all external authentication services listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the external authentication service(s)

   -or-

   Click *No* to cancel the action.

Specifying and Managing Spoke Authentication Servers

A server may be either a Hub DSView Server or a Spoke DSView Server. A server may be either a Hub DSView Server or a Spoke DSView Server. A Hub DSView Server is required to manage DSView users and Avocent appliances and also provides internal authentication of DSView users. A Hub DSView Server also provides internal authentication of DSView users. A Spoke DSView Server provides a secondary way to access the DSView software if the Hub DSView Server is unavailable. The information on the Hub DSView Server is replicated on the Spoke DSView Server. Spoke DSView Server information, such as its IP address, port number and certificate, is stored in the Hub DSView Server's database.

A Spoke DSView Server also provides distributed network capabilities that allow DSView users with distributed networks to manage appliances across the entire enterprise from a single database. A Spoke DSView Server may be used to load-balance and distribute processes by logging in to the server and making changes to its database. For example, a Spoke DSView Server in a site could be responsible for performing tasks such as upgrading the firmware on the site's DSR switches and CPS appliances.

For maximum reliability, you may optionally specify up to 15 computers as Spoke DSView Servers. The DSView software is delivered with the capability to specify one Spoke DSView Server. Up to 15 Spoke DSView Servers may be assigned to your DSView system. The number of available Spoke DSView Servers is dependent on the number of purchased Spoke DSView Server licenses.

NOTE: The DSView software is delivered with one Spoke DSView Server license. The number of available Spoke DSView Servers is dependant on the number of purchased Spoke DSView Server licenses. Additional license may be purchased. Contact your Avocent sales representative for more information.

A Spoke DSView Server may be created by:

- Specifying a Spoke DSView Server when installing the DSView software. Up to 15 Spoke DSView Servers may be added to the DSView 3.0 management system. For information on creating a Spoke DSView Server using this method, see *Specifying and Managing Spoke Authentication Servers* on page 103.
- Registering a Spoke DSView Server to an existing Hub DSView Server, which will convert the Hub DSView Server to a Spoke DSView Server. The actual DSView system data that DSView users access from a DSView Client will come from a different Hub DSView Server. The current Hub DSView Server will replicate the data on the new Hub DSView Server that you specify.

  When a Hub DSView Server is demoted to a Spoke DSView Server, you must provide the IP address of the new Hub DSView Server, and the username and password of a DSView user with DSView Administrator privileges must be specified.

NOTE: All data on the Hub DSView Server being registered as a Spoke DSView Server will be lost.

If you are configuring the DSView software and enter a license key that is already in use, you will either need to register the server as a Spoke DSView Server, or you will need to purchase another license key. See *Specifying and Managing Spoke Authentication Servers* on page 103 for more information.

Spoke DSView Server information, such as IP address, port number and certificate, is stored in a database on the Hub DSView Server.

You may also modify the properties of a Spoke DSView Server or remove Spoke DSView Servers from your system.

To view the Spoke DSView Servers that are installed in your DSView system, select *System* in the tab bar, *DSView Server* in the top navigation bar and *Spoke Servers* in the side navigation bar. The Spoke Servers window will appear.

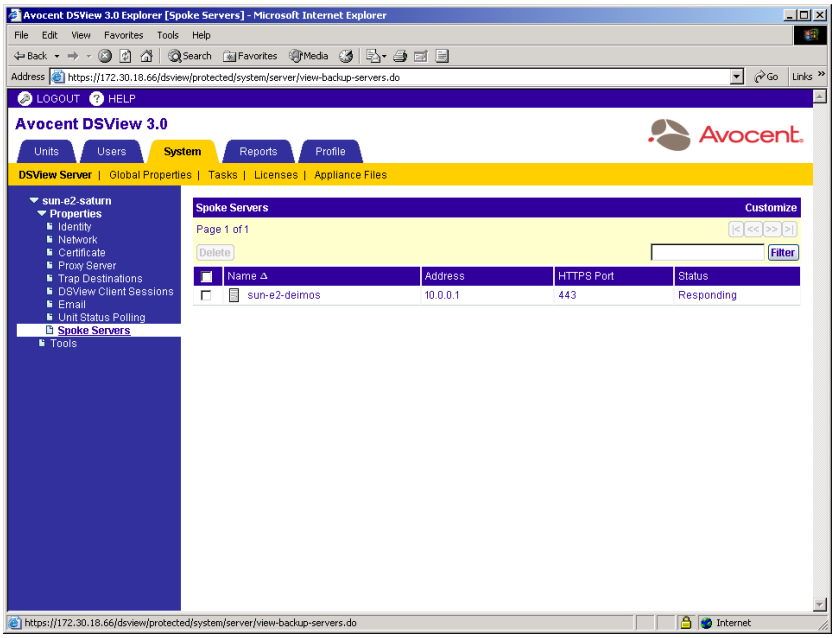


Figure 3.41: Spoke Servers Window

The name of each Spoke DSView Server displays in the Spoke Servers window. To the left of the name, one of the icons in Table 3.1 will appear representing the description in the Status column for each Spoke DSView Server:

Table 3.1: Spoke DSView Server Status Icons

Icon	Description
	Responding
	Not responding

The Spoke Servers window may be used to remove Spoke DSView Servers from the DSView system or to modify the properties of individual Spoke DSView Servers, including their names and connection information.

The following field is always displayed in the Spoke Servers window:

- Name - The name of the DSView Spoke Server.

The following fields are displayed in the Spoke Servers window. Their display may be turned off using the Customize link:

- Address - Displays the IP address, in standard dot notation (xx.xx.xx.xx) of the Spoke DSView Server.
- HTTPS - Displays the HTTPS port used by the Hub DSView Server to communicate with the Spoke DSView Server.
- Status - Displays if the Spoke DSView Server is responding or not responding.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To add a Spoke DSView Server:

1. Install the DSView software on the computer you wish to use as a Spoke DSView Server. See *Installing the DSView 3.0 Management Software* on page 27 for more information.
2. Configure the computer as a Spoke DSView Server. See *Configuring the DSView Software* on page 36 for more information.

To register a Hub DSView Server as a Spoke DSView Server:

NOTE: Only DSView Administrators may register a Hub DSView Server as a Spoke DSView Server.

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *DSView Server*. The side navigation bar will include the name of the server to which you are logged in.

3. From the side navigation bar, select *Tools*. The DSView Server Tools window will appear.

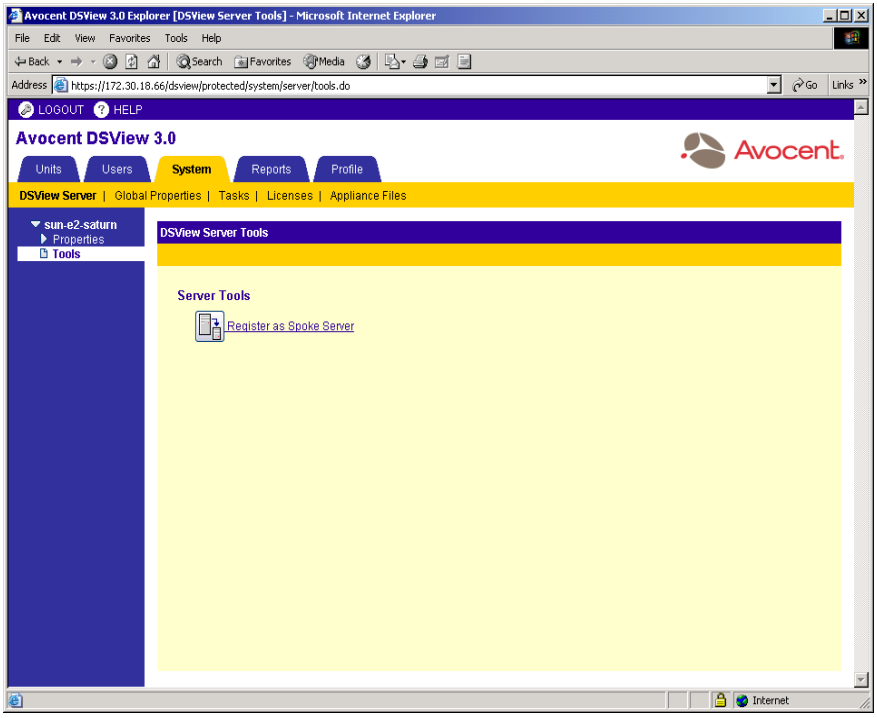


Figure 3.42: DSView Server Tools Window

4. Click the *Register as Spoke Server* icon or text. The Welcome page of the Register Spoke Server Wizard will appear. Click *Next*.
5. The Type in Hub DSView Server Address window will appear.

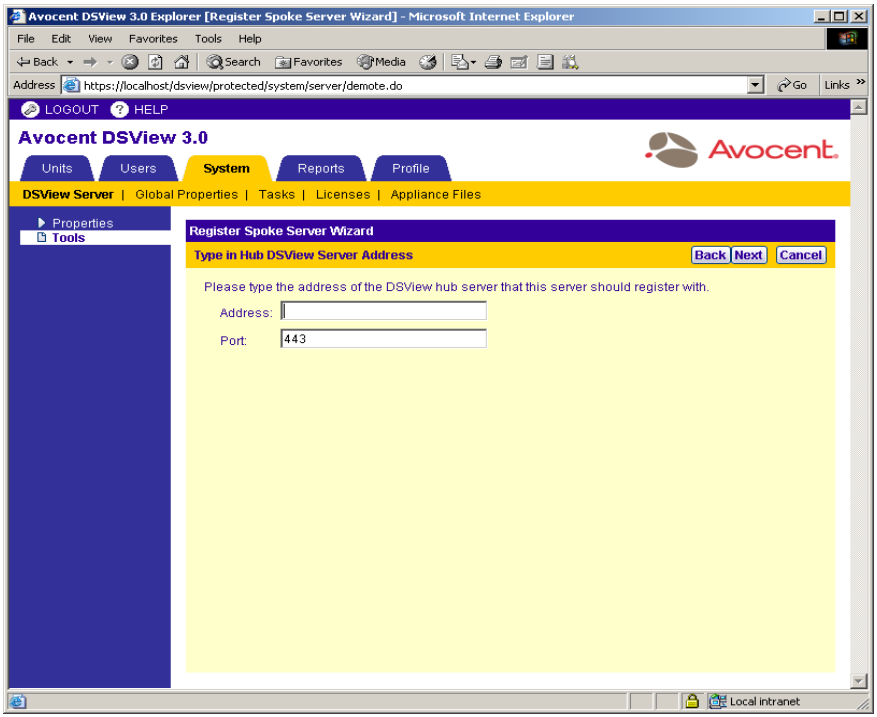

Avocent DSView 3.0 Explorer [Register Spoke Server Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://localhost/dsview/protected/system/server/demote.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Properties
Tools
Register Spoke Server Wizard
Type in Hub DSView Server Address
Back Next Cancel
Please type the address of the DSView hub server that this server should register with.
Address:
Port: 443
Local intranet

Figure 3.43: Register Spoke Server Wizard - Type in Hub DSView Server Address Window

a. Type the IP address of the Hub DSView Server in standard dot notation (xx.xx.xx.xx).

   -or-

   Type the domain name of the Hub DSView Server.

b. Type the port number for the Hub DSView Server.

NOTE: If the default Hub DSView Server port value (443) is modified, you must specify the modified port number when registering a Spoke DSView Server so that register requests will be sent to the correct port on the Hub DSView Server. For example, if the IP address of the Hub DSView Server is 10.0.0.1 and the port number is changed to 444, the following string must be typed in the Address field of the Register Spoke Server Wizard:

https://10.0.0.1:444/dsview

c. Click *Next*.

The Operation in Progress window will temporarily appear, followed by the Accept Hub DSView Server Certificate window.

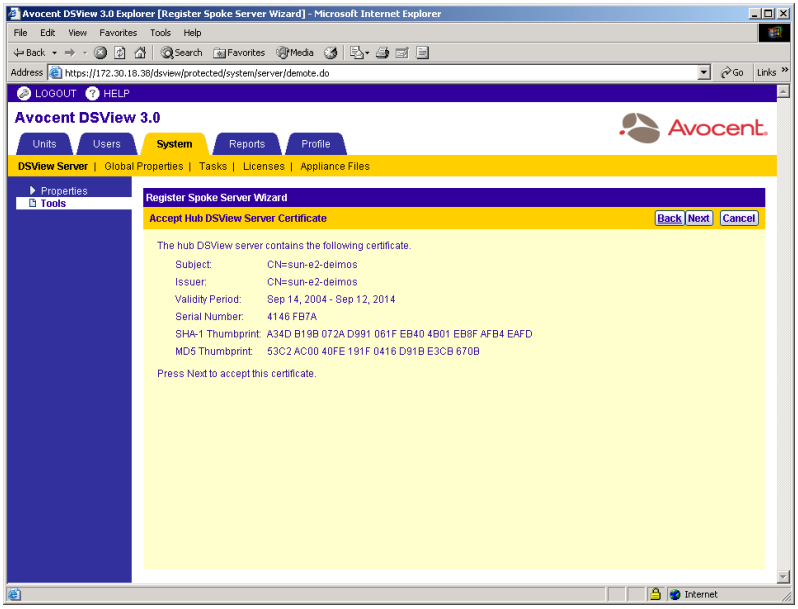

Avocent DSView 3.0 Explorer [Register Spoke Server Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.38/dsview/protected/system/server/demote.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Properties
Tools
Register Spoke Server Wizard
Accept Hub DSView Server Certificate
Back Next Cancel
The hub DSView server contains the following certificate.
Subject: CN=sun-e2-deimos
Issuer: CN=sun-e2-deimos
Validity Period: Sep 14, 2004 - Sep 12, 2014
Serial Number: 4146 FB7A
SHA-1 Thumbprint: A34D B19B 072A D991 061F EB40 4B01 EB8F AFB4 EAFD
MD5 Thumbprint: 53C2 AC00 40FE 191F 0416 D91B E3CB 670B
Press Next to accept this certificate.
Internet

Figure 3.44: Register Spoke Server Wizard - Accept Hub DSView Server Certificate Window

6. Click *Next*.

7. The Type in Hub DSView Server Administrator Credentials window will appear.

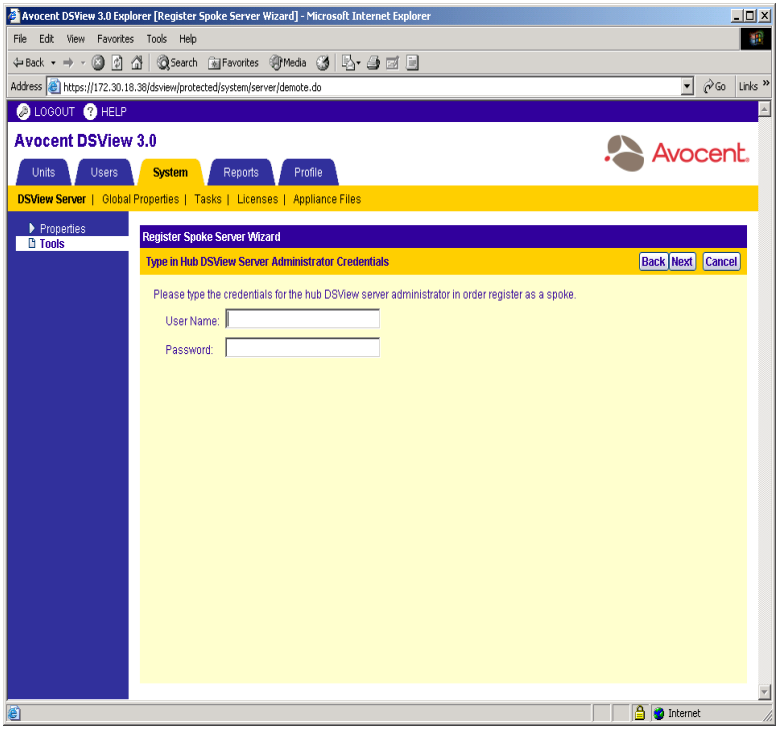

Avocent DSView 3.0 Explorer [Register Spoke Server Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.38/dsview/protected/system/server/demote.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Properties
Tools
Register Spoke Server Wizard
Type in Hub DSView Server Administrator Credentials
Back Next Cancel
Please type the credentials for the hub DSView server administrator in order register as a spoke.
User Name:
Password:
Internet

Figure 3.45: Type in Hub DSView Server Administrator Credentials Window

   a. Type the name of a DSView user with DSView Administrator privileges on the Hub DSView Server.
   b. Type a password for the DSView user.
   c. Click *Next*.

8. The Operation In Progress window will appear with the message *Request In Progress Please Wait*. The configuration of the Spoke DSView Server will be saved to the database of the Hub DSView Server and the Spoke DSView Server's certificates will be installed on the Hub DSView Server.
9. The Completed Successful window will appear when the Spoke DSView Server has been added.
10. Click *Finish*. The Audit DSView Server Tools window will appear.

To modify the properties of a Spoke DSView Server:

1. Log in to the Spoke DSView Server.
2. From the DSView 3.0 Explorer, select *System* in the tab bar, *DSView Server* in the top navigation bar and *Spoke Servers* in the side navigation bar. The Spoke Servers window will appear.
3. Click on the name of a Spoke DSView Server. The Spoke Server Network Properties window will appear.

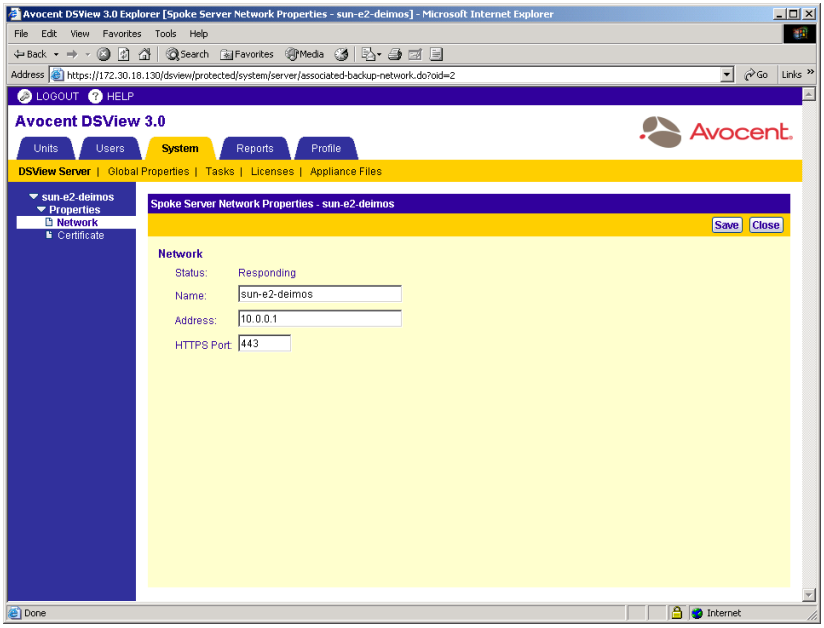


Figure 3.46: Spoke Server Network Properties Window

4. Type a new name for the Spoke DSView Server.
5. Type a new IP address, in standard dot notation (xx.xx.xx.xx), for the Spoke DSView Server.
6. Type a new HTTPS (SSL) port number that will used by the Hub DSView Server to communicate with the Spoke DSView Server. The default port number is port 443.
7. Click *Save* to save your changes.
8. Click *Close*. The Spoke Servers window will appear.

NOTE: The Spoke Servers window is used to updated Spoke DSView Server configuration information on the Hub DSView Server after the Spoke DSView Server IP address or port has been changed.

To delete a Spoke DSView Server:

1. From the DSView 3.0 Explorer, select *System* in the tab bar, *DSView Server* in the top navigation bar and *Spoke Servers* in the side navigation bar. The Spoke Servers window will appear.

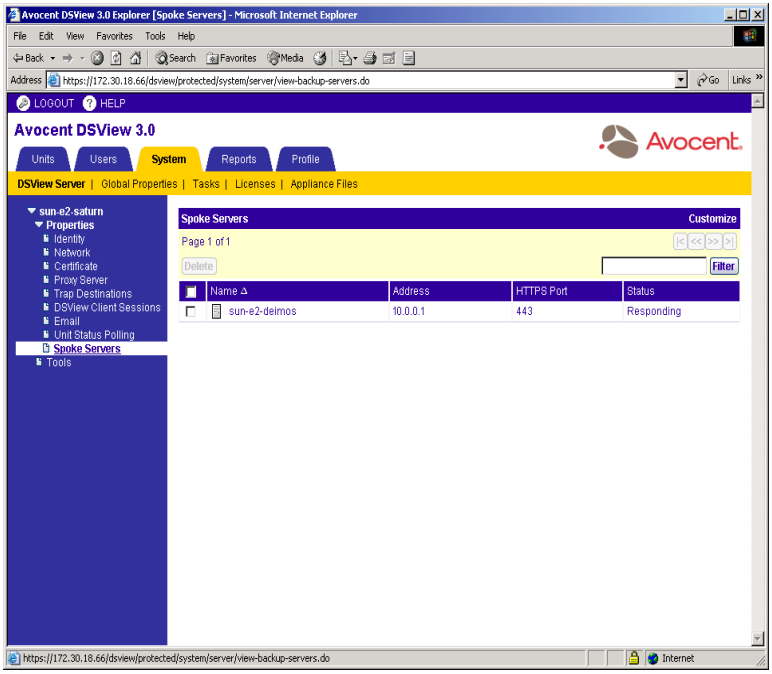


Figure 3.47: Spoke Servers Window

2. Click the checkbox to the left of the Spoke DSView Servers you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all Spoke DSView Servers listed in the window for deletion.
3. Click *Delete*. A confirmation dialog box will appear.
4. Click *OK* to delete the Spoke DSView Servers.

   -or-

   Click *Cancel* to cancel the action.

Managing Licenses

License keys permit the operation of the DSView software on the dedicated server, specify the number of clients that may use the DSView software and the number of Spoke DSView Servers allowed on a system

Using the Licenses link in the top navigation bar, you may access side navigation bar links that display license information about the DSView software, DSView Clients and Spoke DSView Servers and purchased DSView 3.0 license keys. You may also add DSView 3.0 license keys to expand the capabilities of your DSView software.

Displaying License Information

The License Summary window displays the following information about your DSView system:

- The serial number of the license key for the DSView software on the dedicated server.
- The total number of licensed DSView Clients and the number of DSView users currently logged in as DSView Clients. If a site license has been purchased, Unlimited will appear instead of the number of licenses.
- The total number of licensed Spoke DSView Servers and the number of these licenses currently in use on the DSView system.

NOTE: The DSView software supports a maximum of 15 Spoke DSView Servers.

To display DSView software license information:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *Summary.* The License Summary window will appear.

Displaying DSView software license keys

You may display the license number and a description of what the license does for all DSView software licenses you have purchased. One of the following descriptions will display beside each key:

- Installation Key - The key used when the DSView software was initially installed on the dedicated server
- Adds <N> Spoke Servers - A key that adds <N> Spoke DSView Servers.
- Adds <N> Client Session(s) - A key that enables <N> simultaneous DSView Client sessions across all DSView Servers.
- Client Session Site License - A key that is installed as a site license, which allows an unlimited number of DSView Client sessions.

To display DSView 3.0 license keys:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *License Keys*. The License Keys window will appear and list each installed license key and a description of the key.

NOTE: Client Session Site License will appear in the Description field for any key that has been purchased as a site license.

Adding license keys

To add a new DSView software license key:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Licenses*.
3. From the side navigation bar, click *License Keys*. The License Keys window will appear.
4. Click the *Add* button. The Add License Key window will appear.
5. Type a valid (new 25-character) license key in the License Key field.

NOTE: License keys from DSView software release prior to version 3.0 are not valid.

6. Click *Save*. The License Keys window appears containing the new license key.

   -or-

   Click *Close*. A dialog box will appear and prompt you to save any changes. Click *Yes* to add the license key, or click *No* to cancel the action. The License Keys window will appear and contain the license key if you saved the changes.

Managing servers

You may modify the network settings for Hub DSView Servers or Spoke DSView Servers or view the certificate associated with them by clicking on the name of a server and using commands on the side navigation bar.

If you are logged in to the Hub DSView Server, you may specify a particular Spoke DSView Server and modify its settings. If you are logged in to a Spoke DSView Server, you may specify the settings for your Hub DSView Server.

Customizing the Spoke Servers window

By default, the following field appears in the Spoke Servers window by clicking *System* in the tab bar, *DSView Server* in the top option bar and *Spoke Servers* in the side navigation bar:

- Name - The name of the Spoke DSView Server.

By default, the following fields display in the Spoke Servers window and may be removed using the *Customize* link:

- Address - The IP address, in standard dot notation (xx.xx.xx.xx) of the Spoke DSView Server.
- HTTPS Port - The port used for communication with the Spoke DSView Server by Clients and the Hub DSView Server.

NOTE: If DSView Clients are located on an external connection, the HTTPS port must be open on your firewall.

NOTE: The port number is typically changed when the value of the Status field is Not Responding.

- Status - This field indicates whether the Spoke DSView Server is (Responding) or is not (Not Responding) communicating with the Hub DSView Server.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the *Customize* link.

To view a list of Spoke DSView Servers:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *DSView Server*. The side navigation bar will include the name of the DSView Server to which you are logged in.
3. From the side navigation bar, click *Properties*.
4. From the side navigation bar, click *Spoke Servers*. The Spoke Servers window will appear.

To delete a Spoke DSView Server:

NOTE: The Spoke Servers menu is only available on the Hub DSView Server.

1. From the Spoke Servers window, click the checkbox to the left of the Spoke DSView Servers you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all spoke servers listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the Spoke DSView Servers.

   -or-

   Click *Cancel* to cancel the action.

NOTE: When a Spoke DSView Server is deleted, it is no longer allowed to communicate with the Hub DSView Server. Only Spoke DSView Servers that are no longer active should be deleted. If a Spoke DSView Server is still active, it may be re-registered using the Register as Spoke Server wizard.See *Specifying and Managing Spoke Authentication Servers* on page 103 for more information.

Modifying Spoke DSView Server network settings

You may change the network settings that the Hub DSView Server uses to communicate with the Spoke DSView Server. Changing these settings does not affect the actual configuration for the Spoke DSView Server.

You may modify the following network settings:

- The name of the computer being used as a Spoke DSView Server.
- The network address of the Spoke DSView Server.
- The port number used by the Hub DSView Server for communicating with the Spoke DSView Server.

To modify Spoke DSView Server network settings:

NOTE: Spoke DSView Server network settings may need to be modified by DSView Administrators when Spoke Network Settings are changed and the Hub DSView Server did not automatically detect the changes.

NOTE: When modifying the network settings, ensure that a port mismatch will not occur between the Hub DSView Server and Spoke DSView Server.

1. From the Spoke Servers window, click on the name of the Spoke DSView Server whose network properties you wish to change. The Spoke Server Network Properties window will appear.

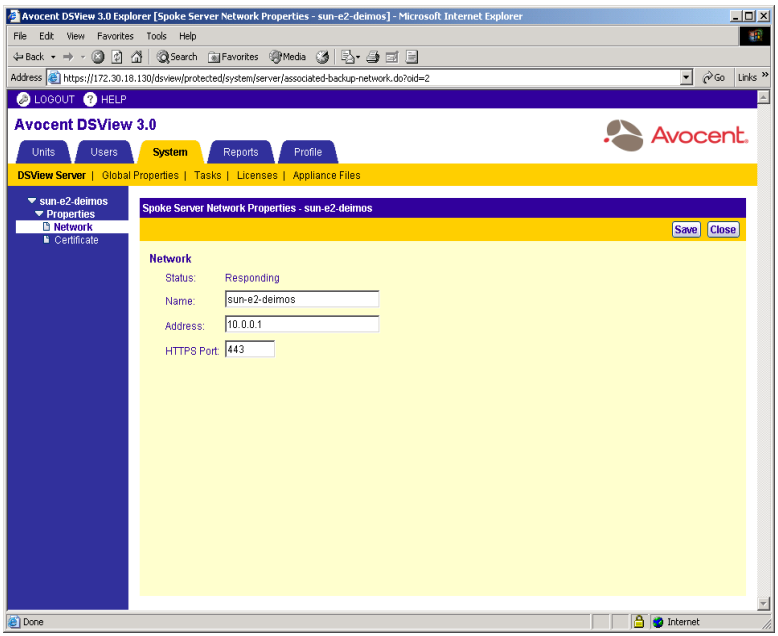


Figure 3.48: Spoke Server Network Properties Window

2. Change any of the following network settings:
   a. Type a new computer name to use as the Spoke DSView Server.
   b. Type a new address in standard dot notation (xx.xx.xx.xx) for the Spoke DSView Server.
   c. Type a new port number for the Spoke DSView Server.
3. Click *Save* to save your changes.
4. Click *Close*. The Spoke Servers window will appear.

Managing Hub and Spoke DSView Server certificates

NOTE: Certificates may only be viewed by DSView Administrators and User Administrators.

When a Spoke DSView Server is registered with a Hub DSView Server, a certificate trust relationship is established between the two servers. Certificate information must match on the Hub DSView Server and Spoke DSView Servers for communication to take place between the servers. If the Spoke DSView Server certificate is subsequently changed, a certificate mismatch will occur.

The following operating sequences describe how to resolve mismatched Hub and Spoke DSView Server certificates.

To update the certificate of a Spoke DSView Server on the Hub DSView Server:

1. From the Hub DSView Server's DSView 3.0 Explorer, click *System*. DSView Server is automatically selected in the top navigation bar and the name of the Hub DSView Server appears at the top of the side navigation bar.
2. From the side navigation bar, click *Spoke Servers*. The Spoke Servers window will appear.
3. From the Spoke Servers window, click *Certificate*. The Spoke Server Certificate window will appear including information about the Spoke DSView Server certificate (Actual Certificate) and the certificate registered for this Spoke DSView Server on the Hub DSView Server (Registered Certificate).
4. The window displays the certificate on the Spoke DSView Server and the certificate registered on the Hub DSView Server.

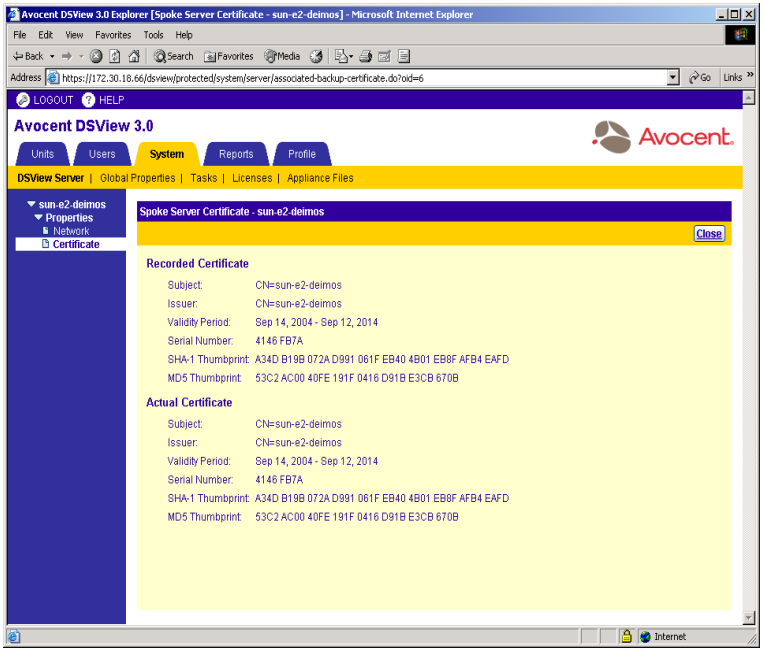

Avocent DSView 3.0 Explorer [Spoke Server Certificate - sun-e2-deimos] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/system/server/associated-backup-certificate.do?oid=6
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
sun-e2-deimos
Properties
Network
Certificate
Spoke Server Certificate - sun-e2-deimos
Close
Recorded Certificate
Subject: CN=sun-e2-deimos
Issuer: CN=sun-e2-deimos
Validity Period: Sep 14, 2004 - Sep 12, 2014
Serial Number: 4146 FB7A
SHA-1 Thumbprint: A34D B19B 072A D991 061F EB40 4B01 EB8F AFB4 EAFD
MD5 Thumbprint: 53C2 AC00 40FE 191F 0416 D91B E3CB 670B
Actual Certificate
Subject: CN=sun-e2-deimos
Issuer: CN=sun-e2-deimos
Validity Period: Sep 14, 2004 - Sep 12, 2014
Serial Number: 4146 FB7A
SHA-1 Thumbprint: A34D B19B 072A D991 061F EB40 4B01 EB8F AFB4 EAFD
MD5 Thumbprint: 53C2 AC00 40FE 191F 0416 D91B E3CB 670B
Internet

Figure 3.49: DSView Server Certificate Properties Window

NOTE: If the DSView software cannot obtain the certificate information from the Spoke DSView Server, the message “Remote server is not responding. Information displayed may not match remote side” will appear at the bottom of the DSView Server Certificate - Spoke Server window.

If the certificate information does not match, continue to step 5.

- or -

If the certificate information matches, go to step 6.

5. Click *Update*. The Spoke DSView Server certificate information will be updated on the Hub DSView Server.
6. Click *Close*. The Spoke Servers window will appear.

To update the certificate of a Hub DSView Server on the Spoke DSView Server:

1. From the Spoke DSView Server’s DSView 3.0 Explorer, click System. DSView Server is automatically selected in the top navigation bar and the name of the Spoke DSView Server appears at the top of the side navigation bar.
2. From the side navigation bar, click *Hub Server*. The Hub Server window will appear.

3. From the Hub Server window, click *Certificate*. The Hub Server Certificate window will appear including information about the Spoke DSView Server certificate (Actual Certificate) and the certificate registered for this Spoke DSView Server on the Hub DSView Server (Registered Certificate).

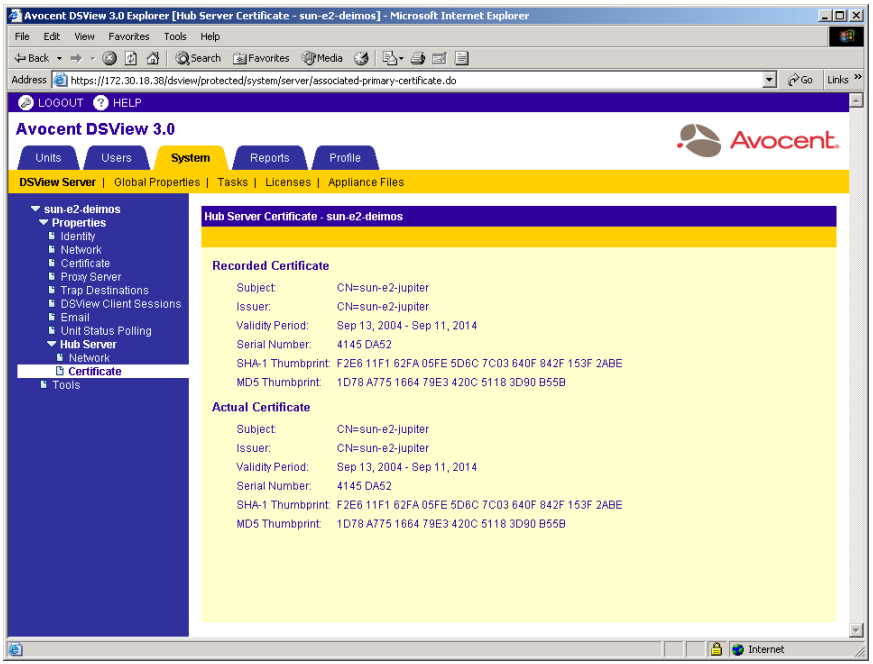

Avocent DSView 3.0 Explorer [Hub Server Certificate - sun-e2-deimos] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.38/dsview/protected/system/server/associated-primary-certificate.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
sun-e2-deimos
Properties
Identity
Network
Certificate
Proxy Server
Trap Destinations
DSView Client Sessions
Email
Unit Status Polling
Hub Server
Network
Certificate
Tools
Hub Server Certificate - sun-e2-deimos
Recorded Certificate
Subject: CN=sun-e2-jupiter
Issuer: CN=sun-e2-jupiter
Validity Period: Sep 13, 2004 - Sep 11, 2014
Serial Number: 4145 DA52
SHA-1 Thumbprint: F2E6 11F1 62FA 05FE 5D6C 7C03 640F 842F 153F 2ABE
MD5 Thumbprint: 1D78 A775 1664 79E3 420C 5118 3D90 B55B
Actual Certificate
Subject: CN=sun-e2-jupiter
Issuer: CN=sun-e2-jupiter
Validity Period: Sep 13, 2004 - Sep 11, 2014
Serial Number: 4145 DA52
SHA-1 Thumbprint: F2E6 11F1 62FA 05FE 5D6C 7C03 640F 842F 153F 2ABE
MD5 Thumbprint: 1D78 A775 1664 79E3 420C 5118 3D90 B55B
Internet

Figure 3.50: Hub Server Certificate Window

NOTE: If the DSView software cannot obtain the certificate information from the Hub DSView Server, the message "* Remote server is not responding. Information displayed may not match remote side" will appear at the bottom of the DSView Server Certificate - Hub Server window.

If the certificate information does not match, continue to step 4.

4. Click *Update*. The Hub DSView Server certificate information will be updated on the Spoke DSView Server.

CHAPTER 4

Managing Units

About Units

In the DSView 3.0 management software, click *Units* in the tab bar of the DSView 3.0 Explorer to access commands to perform the following:

- Add, delete, modify and scan units, which are managed appliances (DSR switches, CPS serial over IP network appliances, EVR1500 environmental monitor and control appliances and generic appliances) and target devices.
- Add access rights to units.
- Export units or the rights associated with them.

Clicking *Units* in the tab bar will automatically select *Units* in the top navigation bar and the topmost item under Unit Views in the side navigation bar. Depending on the DSView user, the DSView user's rights and the units in the DSView system, one of the following windows will appear:

- Target Devices - All window
- Appliances - All window
- Recently Accessed window

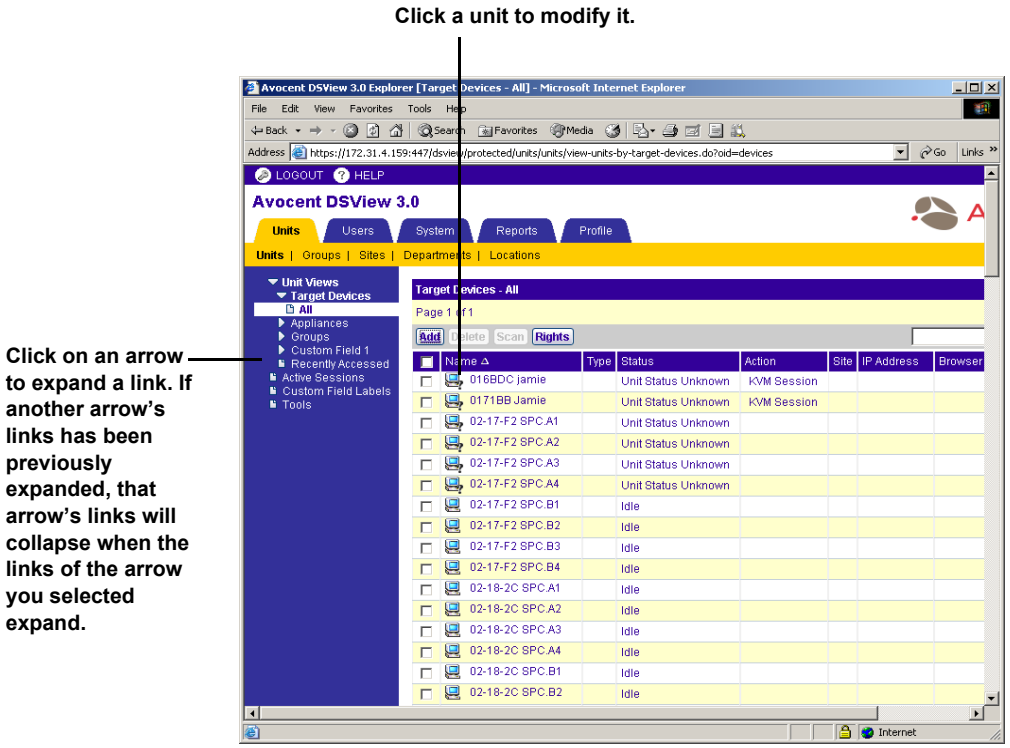

Click a unit to modify it.
Click on an arrow to expand a link. If another arrow's links has been previously expanded, that arrow's links will collapse when the links of the arrow you selected expand.
Avocent DSView 3.0 Explorer [Target Devices - All] - Microsoft Internet Explorer
LOGOUT HELP
Avocent DSView 3.0
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
All
Appliances
Groups
Custom Field 1
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Target Devices - All
Add Delete Scan Rights
Name Type Status Action Site IP Address Browser
016BDC Jamie Unit Status Unknown KVM Session
0171BB Jamie Unit Status Unknown KVM Session
02-17-F2 SPC.A1 Unit Status Unknown
02-17-F2 SPC.A2 Unit Status Unknown
02-17-F2 SPC.A3 Unit Status Unknown
02-17-F2 SPC.A4 Unit Status Unknown
02-17-F2 SPC.B1 Idle
02-17-F2 SPC.B2 Idle
02-17-F2 SPC.B3 Idle
02-17-F2 SPC.B4 Idle
02-18-2C SPC.A1 Idle
02-18-2C SPC.A2 Idle
02-18-2C SPC.A3 Idle
02-18-2C SPC.A4 Idle
02-18-2C SPC.B1 Idle
02-18-2C SPC.B2 Idle

Figure 4.1: Target Devices - All Window

Using the Unit Views to display and modify units

All units in your DSView system for which a DSView user has access rights are located beneath Unit Views in the side navigation bar. Clicking on links beneath Unit Views in the side navigation bar that contain a horizontal arrow will cause the link to expand and display additional sub links. You may click on a link beneath Target Devices to access one of the listed groupings of target devices, or click on the *Appliances* link to display a list of managed appliance groups that you may access.

Clicking on one of the target device types in the side navigation bar will display a Target Devices window containing a listing of all target devices in the DSView system that belonging to that particular type. Clicking on a managed appliance type link in the side navigation bar will display an Appliances window containing a listing of all managed appliances in the DSView system that belonging to that particular type. You may also click *All* beneath either link to list all target devices or all managed appliances in your DSView system.

The types of managed appliances that may be added to the DSView software are predefined and will appear beneath Appliances in the side navigation bar only if a unit of that type exists in the DSView system and the DSView user has access to the unit. For example, if no DSR1021 switch, CPS810 appliance or EVR1500 environmental monitor exists on your DSView system, these types will not appear beneath Appliances in the side navigation bar. If a DSR1021 switch to which you have access is added to the DSView system, a DSR1021 link will appear in the side navigation bar. Clicking on the link will display the DSR1021 switch, as well as any other existing DSR1021 switches in the DSView system.

Target device types are defined by DSView users. If a type has been assigned to a target device, the type name will appear beneath Target Devices in the side navigation bar. For example, if you assign a type of Windows 2000 to three target devices, a Windows 2000 link will appear in the side navigation bar. Clicking on the link will display the three target devices, as well as any other existing target devices assigned a type of Windows 2000. See *Modifying unit overview information* on page 147 for information on assigning a type to a target device.

Clicking *Recently Accessed* in the side navigation bar will display the Recently Accessed Units window containing a list of units that have been most recently accessed by the logged in DSView user, which is stored across DSView sessions for the DSView user. You may also click a link beneath *Sites* or a custom field to display a list of units associated with the site or custom field.

NOTE: Sites and custom fields will not appear in the side navigation bar unless at least one site or custom field has been defined, at least one unit is associated with the site or custom field and the DSView user has access to the unit. See *Managing Units Using Sites* on page 296, *Managing Units using Custom Fields* on page 323 and *Modifying unit access rights* on page 161 for more information.

A unit may be modified by clicking on its name. Links for items that may be modified will appear in the side navigation bar.

The items available for editing will vary, based on the following:

- The type of unit that has been selected.
- The access rights specified for the DSView user on the particular unit. For example, if Configure Appliance Settings is not specified for a DSView user on a particular managed appliance, the Appliance Settings link and its sub-links will not be available in the side navigation bar. The DSView user will not have access to any commands that allow modification of the managed appliance settings.

See *Managing Units* on page 147 for information on modifying a unit.

The side navigation bar also contains the following three links that may be used to perform other unit related tasks:

- *Active Sessions* - Click this link to access the Active Sessions window, which may be used to remove or display information about target device sessions. See *Viewing active session information* on page 213 for more information.

- *Custom Field Labels* - Click this link to specify information for custom fields. See *Managing Units using Custom Fields* on page 323 for more information.
- *Tools* - Click this link to access unit tools. See *Using Unit Tools* on page 347 for more information.

You may use one of the windows listed beneath Unit Views in the side navigation bar to add, delete, scan and assign rights to units. Clicking on a unit provides access to side navigation bar links that may be used to modify information related to the unit.

Only the units for which you have been assigned privileges will display in the content area. See *Managing DSView Users using User Groups* on page 329 for information on specifying DSView user privileges and *Connecting to an existing KVM session* on page 243 for more information on Stealth mode.

NOTE: Units will also not display if they are hidden. See *Showing and hiding units* on page 126 for more information.

To display managed appliances in the Appliances window:

1. From the DSView 3.0 Explorer, click the *Units* tab. *Units* is automatically selected in the top navigation bar and *Unit Views* is automatically selected in the side navigation bar.
2. From beneath Unit Views in the side navigation bar, click *Appliances*. The Appliances - All window will appear including all managed appliances on your DSView system.

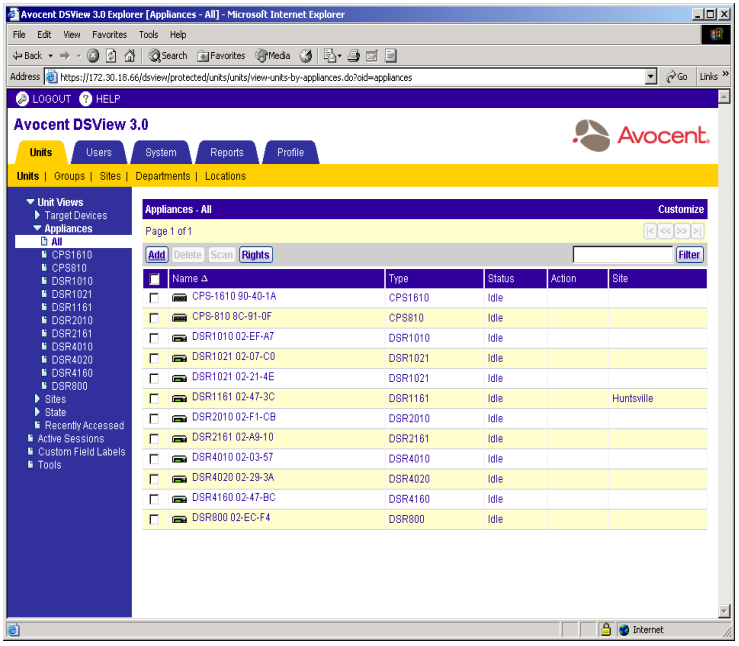


Figure 4.2: Appliances - All Window

3. Click on the managed appliance links in the side navigation bar to display the Appliances window you wish to view.

NOTE: Managed appliances that you have recently accessed may also be displayed by clicking *Recently Accessed* beneath Unit Views in the side navigation bar.

To display target devices in the Target Devices window:

NOTE: Only target devices to which a DSView user has been assigned privileges will display.

1. From the DSView 3.0 Explorer, click the *Units* tab. *Units* in the top navigation bar and *Unit Views - Target Devices - All* are automatically selected in the side navigation bar and the Target Devices - All window is displayed including all target devices on your DSView system.

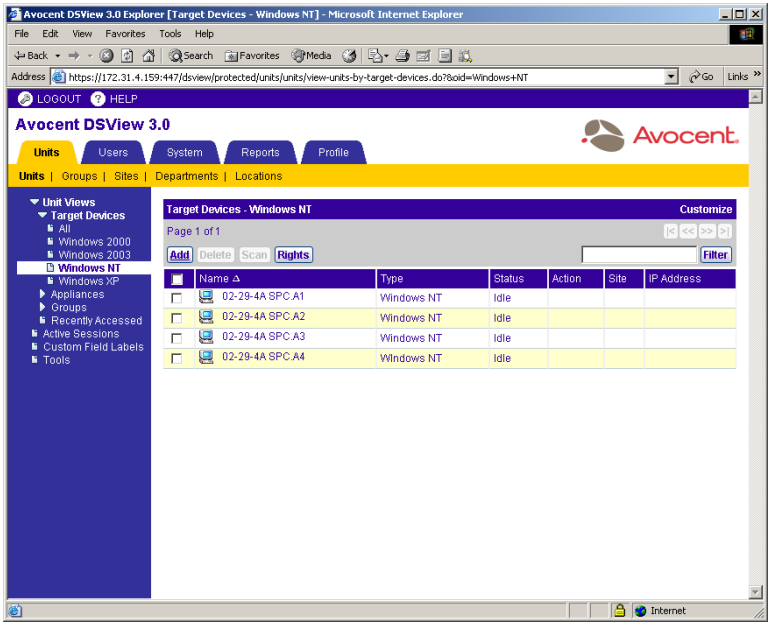


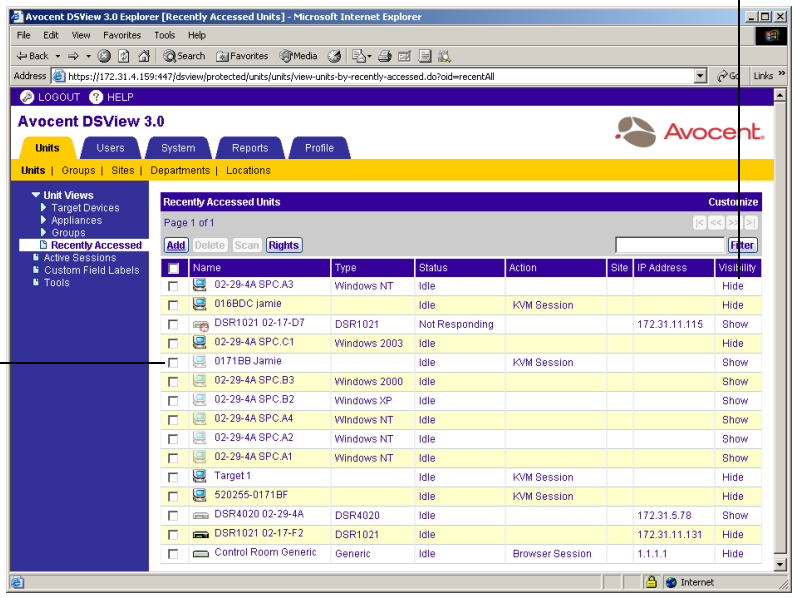
Figure 4.3: Target Devices - All Window

2. If any target devices have been assigned a type, the name of the types will display in the side navigation bar under Target Devices. Clicking on a target device type will display only the target devices assigned to the type. See *Modifying unit overview information* on page 147 for information on assigning a type to a target device.

Showing and hiding units

NOTE: Units will also not display if a DSView user has not been assigned privileges to a unit. See *Managing DSView Users using User Groups* on page 329 for information on specifying DSView user privileges.

The Visibility column may be displayed using the Customize link. Change the show/hide state of a unit by clicking on Show or Hide.


Avocent DSView 3.0 Explorer [Recently Accessed Units] - Microsoft Internet Explorer
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
Appliances
Groups
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Recently Accessed Units
Customize
Page 1 of 1
Add Delete Scan Rights
Filter
Name Type Status Action Site IP Address Visibility
02-29-4A SPC.A3 Windows NT Idle Hide
016BDC jamie Idle KVM Session Hide
DSR1021 02-17-D7 DSR1021 Not Responding 172.31.11.115 Show
02-29-4A SPC.C1 Windows 2003 Idle Hide
0171BB Jamie Idle KVM Session Show
02-29-4A SPC.B3 Windows 2000 Idle Show
02-29-4A SPC.B2 Windows XP Idle Show
02-29-4A SPC.A4 Windows NT Idle Show
02-29-4A SPC.A2 Windows NT Idle Show
02-29-4A SPC.A1 Windows NT Idle Show
Target 1 Idle KVM Session Hide
520255-0171BF Idle KVM Session Hide
DSR4020 02-29-4A DSR4020 Idle 172.31.5.78 Show
DSR1021 02-17-F2 DSR1021 Idle 172.31.11.131 Hide
Control Room Generic Generic Idle Browser Session 1.1.1.1 Hide
Internet

Hidden items will appear with a transparent icon if Show hidden items is checked in the Customize window.

Figure 4.4: Shown and Hidden Units in a Unit Views Window

If you have clicked the *Customize* link to display the Units View customization window and turned on the display of the Visibility column, you may click *Hide* in the Visibility column to completely remove the display of a unit from a Unit Views window. Hiding turns off the display of units in the Unit Views window, but does not remove the units from your DSView system.

If *Show hidden items* has also been selected in the Units View Customization window, all hidden units will appear with a transparent icon instead of being completely hidden in a Unit Views window. If *Show hidden items* has been selected, you may click *Show* in the Visibility field to make the units visible, which will change the transparent icon to a non-transparent icon. When a unit is made visible, the Visibility column will change to contain Hide so you may once again hide the unit if you wish. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using a Customize window.

To hide a unit:

1. Click *Customize* in a Unit Views window. The Units View Customization window will appear.
2. Click *Visibility* in the Available Fields column and then click *Add*. Visibility will be moved to the Fields to Show column.
3. Click *Show hidden items* if you wish to display hidden units in the Unit Views window with a transparent icon.
4. Click *Save* and then click *Close*. The Unit Views window will appear containing the Visibility column. The Visibility column will display Hide for units that are not hidden.
5. Click *Hide*. The display of the selected unit will be turned off in the Unit Views window if *Show hidden items* was not selected in the Unit Views Customization window. If *Show hidden items* was selected, the hidden unit will appear with a transparent icon.

To show a hidden unit:

1. Click *Customize* in a Unit Views window. The Units View Customization window will appear.
2. Click *Visibility* in the Available Fields column and then click *Add*. Visibility will be moved to the Fields to Show column.
3. Click *Show hidden items*.
4. Click *Save* and then click *Close*. The Unit Views window will appear containing the hidden items and the Visibility column. Hidden items will have a transparent icon and the Visibility column will display Show.
5. Click *Show*. The selected unit will be made visible, the transparent icon will be changed to a non-transparent icon and the Visibility column will display Hide.

Customizing Unit Views windows

By default, the following fields appear in the windows displayed by clicking *Units* in the tab bar, *Units* in the top option bar and clicking any of the side navigation bar links beneath Unit Views:

- Name - Displays the names of units. You may click on a name to display and modify information or specify an icon to associate with a unit. See *Managing Units* on page 147 for more information.
- Type - Displays the type of target device or model of managed appliance. See *Modifying unit overview information* on page 147 for information on assigning a type to a target device.
- Status - Displays the current activity level of a unit.

  The following status IDs may display for units:

  - Idle - The unit is powered up with no connection.
  - In Use - The unit has at least one active connection.
  - Status Unknown - The status of the unit was reported to the DSView software but cannot be obtained for an unknown reason.

The following status IDs may display for target devices only:

- No Power - The target device is powered down.
- KVM Blocked - The connection path to the target device is blocked because a cascade switch is already in use.
- Partial Power - The DSView software cannot determine the power state of the target device, or the DSView software received a mixed power state from the target device. For example, if a target device has a KVM connection and an SPC connection, the DSView software will ask for a power status for both of these connections. If both connections do not reply with ON or OFF, the power status will display as Partial Power.

The following status ID may display for managed appliances only:

- Not Responding - The managed appliance did not provide status information to the DSView Server. This may occur for multiple reasons, including:
  - The managed appliance is not powered up.
  - The managed appliance is disconnected from the DSView system.

An icon will appear to the right of the Name column to represent the status of a unit. Table 4.1 lists and describes the status icons that may appear.

Table 4.1: Unit Icons

Icon in Name Field	Description in Status Field	Displays for
	In Use	Units
	Not Responding	Managed Appliances
	No Power	Target Devices
	KVM Blocked	Target Devices
	Partial Power	Target Devices
	Status Unknown	Units

- Action - Displays the type of DSView session that may be initiated from the DSView software.

  Although an EVR1500 environmental monitor, generic appliance or target device may have multiple actions that may be performed (for example, a target device may be able to open using a Browser Session and Telnet Session), only one action will appear in the Action column. The action that appears is based on the precedence of the action. The precedence is determined by the DSView software and whether the action may be performed on the unit. For example, a target device only attached to a CPS appliance will not contain a KVM Session link in a Unit

Views window. If a target device has a connection to both a CPS appliance and a DSR switch, a KVM Session link will appear.

Table 4.2 lists the types of DSView sessions that a user will initiate when a link is clicked and the precedence of the action.

Table 4.2: Actions to Initiate DSView Sessions

Action	Description	From	Precedence
KVM Session	Opens a Video Viewer window session	Target devices	1 (Highest)
Serial Session	Opens a Telnet viewer window session	Target Devices	2
Browser Session	Opens a web browser	Target devices, EVR1500 environmental monitors or generic appliances	3
Telnet Session	Opens a Telnet/SSH applet window session	Target devices, EVR100 environmental monitors or generic appliances	4

- Site - Displays the name of a set of units. See *Managing Units Using Sites* on page 296 for information on assigning a site.

The following field are not displayed by default, but may be displayed using the *Customize* link:

- Browser URL - Displays the URL that may be used by a DSView user on a DSView Client to access a target device, EVR1500 environmental monitor or generic appliance. This field will be empty if a URL is not available.
- Custom Field 1-3 - Displays the custom fields that have been assigned to units. If the fields have been defined at the DSView system level and for units, the defined names will appear instead of Custom Field 1, Custom Field 2 and Custom Field 3. See *Managing Units using Custom Fields* on page 323 for more information on custom fields.
- Department - Displays the department name assigned to units. See *Managing Units Using Departments* on page 303 for information on assigning a unit to a department.
- DSView Server - Displays the name of the DSView Server associated with units.
- Location - Displays the location (such as a room number) assigned to units. See *Managing Units Using Locations* on page 308 for information on assigning a unit to a location.
- Model Number - Displays the model numbers of units. See *Modifying unit identity properties* on page 151 for more information.
- Part Number - Displays the part numbers of units. See *Modifying unit identity properties* on page 151 for more information.
- Primary Contact - Displays the name of the person to contact who is responsible for a unit. See *Specifying phone contact information for DSView users* on page 236 for information on assigning a primary contact.

- Primary Contact Phone - Displays the phone number of the primary contact. See *Specifying phone contact information for DSView users* on page 236 for information on assigning a primary contact phone number.
- Secondary Contact - Displays the name of the person to contact for a unit if the primary contact is unavailable. See *Specifying phone contact information for DSView users* on page 236 for information on assigning a secondary contact.
- Secondary Contact Phone - Displays the phone number of the secondary contact. See *Specifying phone contact information for DSView users* on page 236 for information on assigning a secondary contact phone number.
- Serial Number - Displays the serial numbers of units. See *Modifying unit identity properties* on page 151 for information on assigning a serial number.
- Telnet Port - Displays the port number used for a Telnet connection to a target device by a DSView Client.
- Visibility - Allows a DSView user to choose whether to display (Show) or not display (Hide) a unit in the Unit Views windows. To view hidden items, click *Show hidden items* in the Units View Customization window.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

Adding Units

You use the Add Unit Wizard to add units to your DSView system. To access the Add Unit Wizard, click *Add* in a Unit Views window to display the Welcome page of the Add Unit Wizard.

You may add the following:

- A single managed appliance
- Add multiple managed appliances based on a range of IP addresses
- A single target device (not attached to a DSR switch or CPS appliance)

When a managed appliance is added, DSView Administrator, User Administrator and Appliance Administrator privileges are automatically assigned to the managed appliance. A DSView user with any of these privileges may:

- Reboot a CPS appliance or DSR switch
- Administer local user accounts on the managed appliance
- Control target device power
- Establish sessions with target devices from the DSR switch or CPS appliance

Appliance Administrators and DSView Administrators may:

- FLASH upgrade a DSR switch or CPS appliance
- View and configure settings for a managed appliance

Managed appliance rights may be changed using the *Access Rights* link in the side navigation bar. See *Modifying unit access rights* on page 161 for more information.

An SPC device is automatically added to the DSView software database and associated with the specified serial port on a DSR switch or CPS appliance when you add the DSR switch or CPS appliance. Any target devices plugged into the SPC device outlets are also added, based on the options selected on the Select Target Devices Options window of the Add Unit wizard.

When a DSR switch or CPS appliance is added to the DSView system, all connections to the target devices may be viewed by clicking on the DSR switch or CPS appliance and then clicking *Connections* in the side navigation bar. If you are viewing a CPS appliance, the port and target device will appear. If you are viewing a DSR switch, the port, DSRIQ modules and the target devices to which the DSRIQ modules are attached will appear. A target device added to the DSView system will display all of the connections paths available to it, including the connection paths for cascade switch channels. See *Managing connections to units* on page 216 for more information.

The applicable X.509 certificate is automatically copied from the DSView software to the DSR switch or CPS appliance being added. A certificate is a unique identifiers of an individual DSR switch or CPS appliance.

A DSR switch or CPS appliance may be added in either Secure mode or Non-secure mode. If a DSR switch or CPS appliance is added in Secure mode, it may only be added to the DSView system in which you are logged in. If a DSR switch or CPS appliance is added in Non-secure mode, it may be added to multiple DSView systems. You specify whether or not a DSR switch or CPS appliance uses Secure mode with the Enable Secure Mode checkbox in the Select Options window of the Add Appliance wizard.

NOTE: EVR1500 environmental monitors and generic appliances do not support certificates and may be added to multiple DSView systems.

To add a single DSR switch or CPS appliance:

1. Click *Add* in a Unit Views window.

   The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

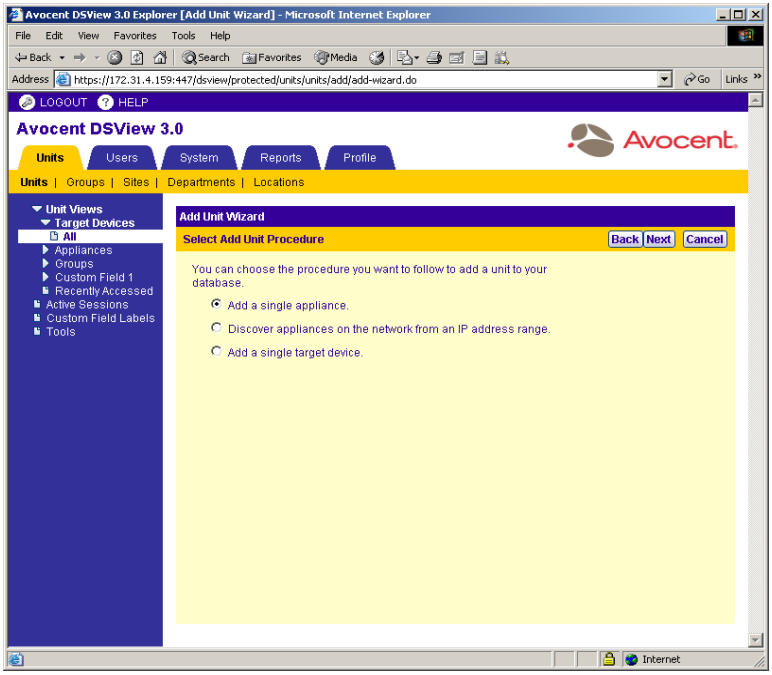


Figure 4.5: Add Unit Wizard - Select Add Unit Procedure Window

a. Click *Add a single appliance*.

b. Click *Next*.

3. The Select Appliance Type window will appear.

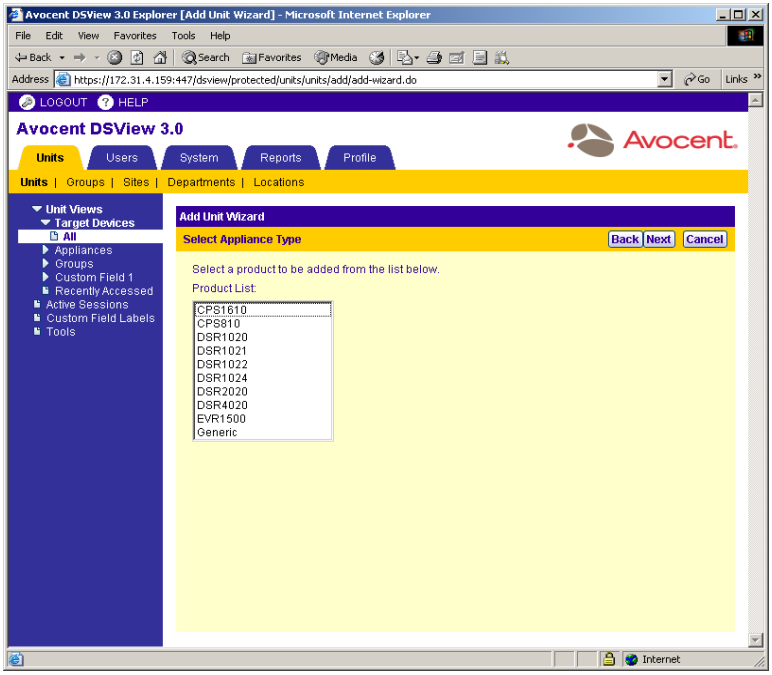


Figure 4.6: Add Unit Wizard - Select Appliance Type Window

a. Select a DSR switch or CPS appliance from the product list.

b. Click *Next*.

4. A Select Address Configuration of Appliance window will appear including the name of the DSR switch or CPS appliance.

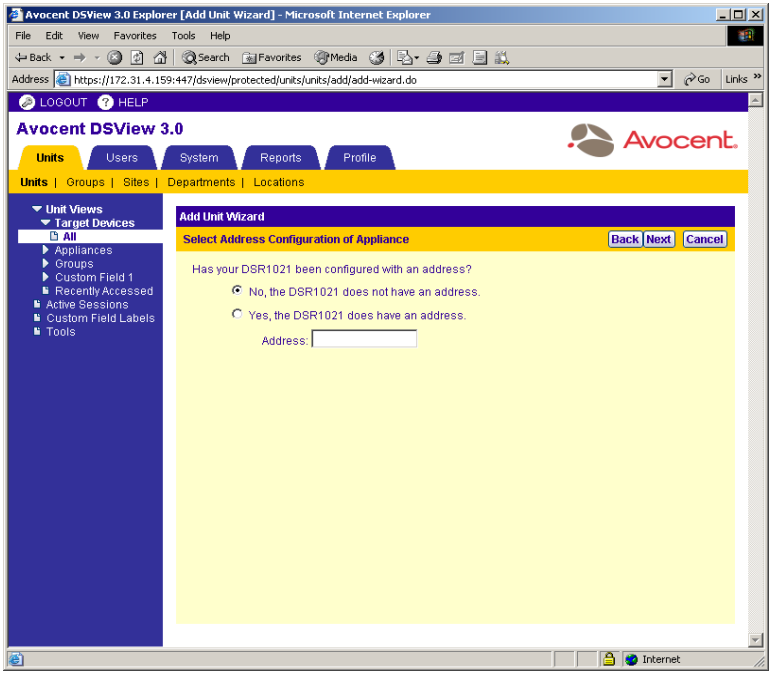


Figure 4.7: Add Unit Wizard - Select Address Configuration of Appliance Window

Click *No, the <Managed Appliance Name> does not have an address* if the DSR switch or CPS appliance does not have an existing address. Continue to step 5.

-or-

Click *Yes, the <Managed Appliance Name> does have an address* and either type the address or the fully qualified domain name for the DSR switch or CPS appliance. Go to step 6.

5. The Configure Appliance Network Settings window will appear.

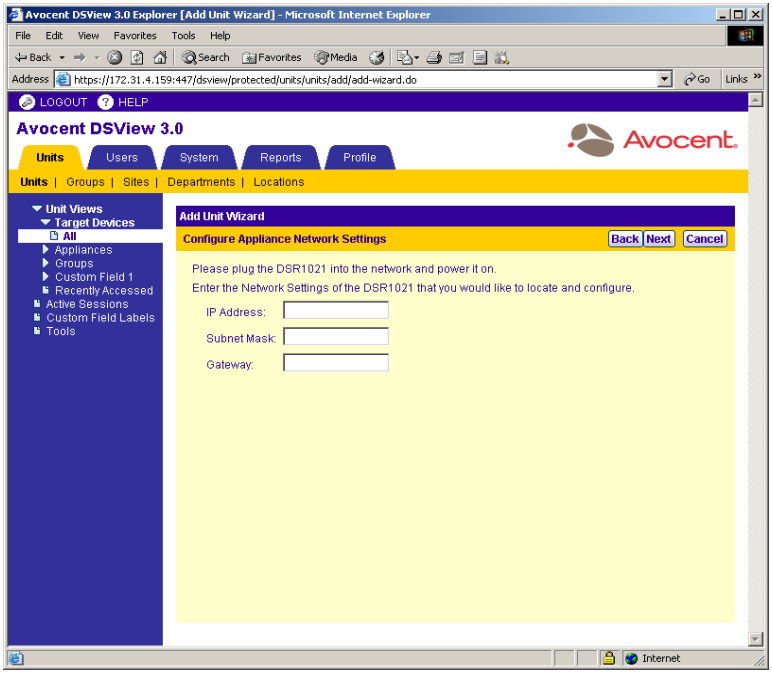


Figure 4.8: Add Unit Wizard - Configure Appliance Network Settings Window

a. Type the IP address and subnet mask, in standard dot notation (xx.xx.xx.xx), for the DSR switch or CPS appliance.

b. Optionally, type a gateway in standard dot notation (xx.xx.xx.xx).

c. Click *Next*.

6. The Select Options window will appear.

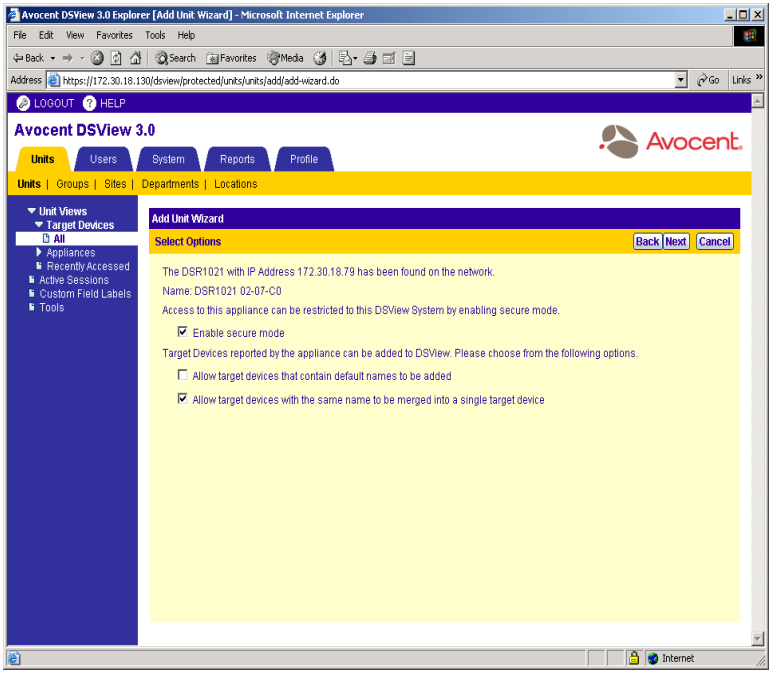

Avocent DSView 3.0 Explorer [Add Unit Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.130/dsview/protected/units/units/add/add-wizard.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
All
Appliances
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Add Unit Wizard
Select Options
Back Next Cancel
The DSR1021 with IP Address 172.30.18.79 has been found on the network.
Name: DSR1021 02-07-C0
Access to this appliance can be restricted to this DSView System by enabling secure mode.
Enable secure mode
Target Devices reported by the appliance can be added to DSView. Please choose from the following options.
Allow target devices that contain default names to be added
Allow target devices with the same name to be merged into a single target device
Internet

Figure 4.9: Add Unit Wizard - Select Options Window

a. Click *Enable Secure Mode* if you wish for the DSR switch or CPS appliance to only be accessible by this DSView system.

b. Click *Prevent Target Devices that contain default names from being added* if you wish to prevent the adding of any target devices whose port names have not been modified from the factory defaults of the DSR switch or CPS appliance.

c. Click *Allow Target Devices with the same name to be merged into a single Target Device* if you wish to merge a target device that has multiple connections into a single target device. For example, a target device may be connected to a both a DSR switch and an SPC device outlet connected to a CPS appliance.

d. Click *Next*.

7. If one or more cascade switches are connected to the DSR switch or CPS appliance, the Configure Cascade Switches window will appear.

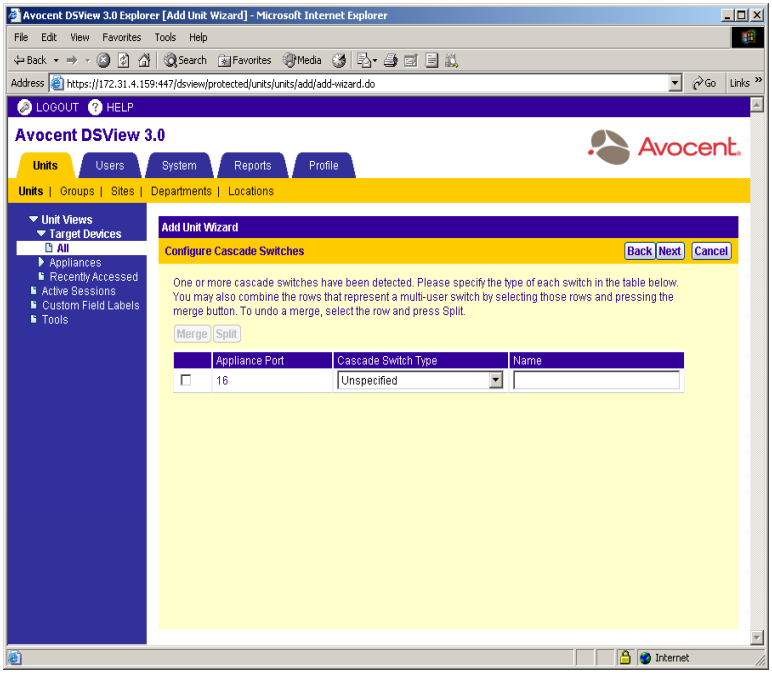

Avocent DSView 3.0 Explorer [Add Unit Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/units/units/add/add-wizard.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
All
Appliances
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Add Unit Wizard
Configure Cascade Switches
Back Next Cancel
One or more cascade switches have been detected. Please specify the type of each switch in the table below.
You may also combine the rows that represent a multi-user switch by selecting those rows and pressing the merge button. To undo a merge, select the row and press Split.
Merge Split
Appliance Port
Cascade Switch Type
Name
16
Unspecified
Internet

Figure 4.10: Add Unit Wizard - Configure Cascade Switches Window

   a. Select the type of cascade switch for each row from the drop-down menu in the Cascade Switch Type column.
   b. If you wish, type a name for each row in the Name column.
   c. If two or more rows of a multiuser cascade switch are discovered, you may merge the rows by selecting the checkboxes of the rows you wish to merge and clicking *Merge*. To undo the merge, click the row of the merged switch and click *Split*.
   d. Click *Next*.
8. The Completed Successful window will appear.
9. Click *Finish*.

To add a DSR switch or CPS appliance from a range of IP addresses:

1. Click *Add* in a Unit Views window.
   The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

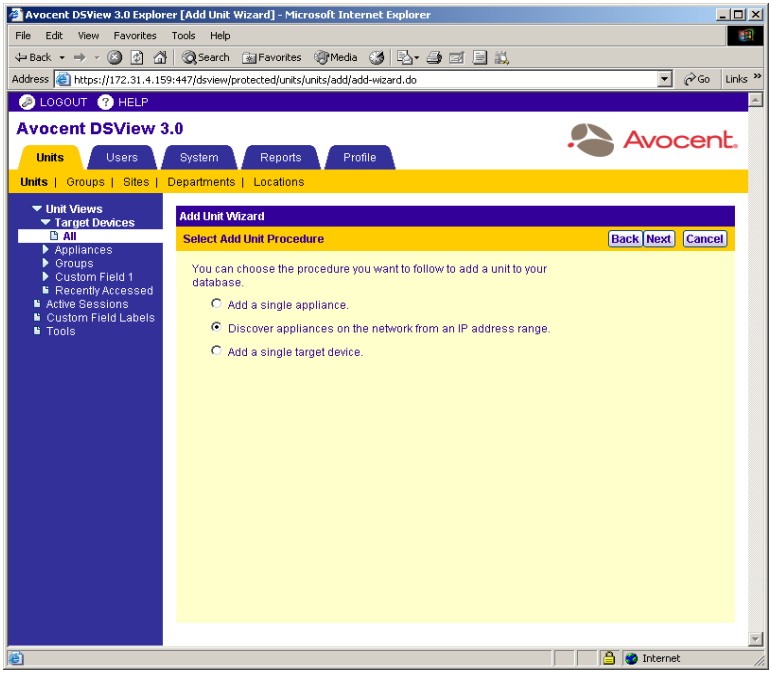


Figure 4.11: Add Unit Wizard - Select Add Unit Procedure Window

a. Click *Discover appliances on the network from an IP address range*.
b. Click *Next*.

3. The Type in Discover IP Address Range window will appear.

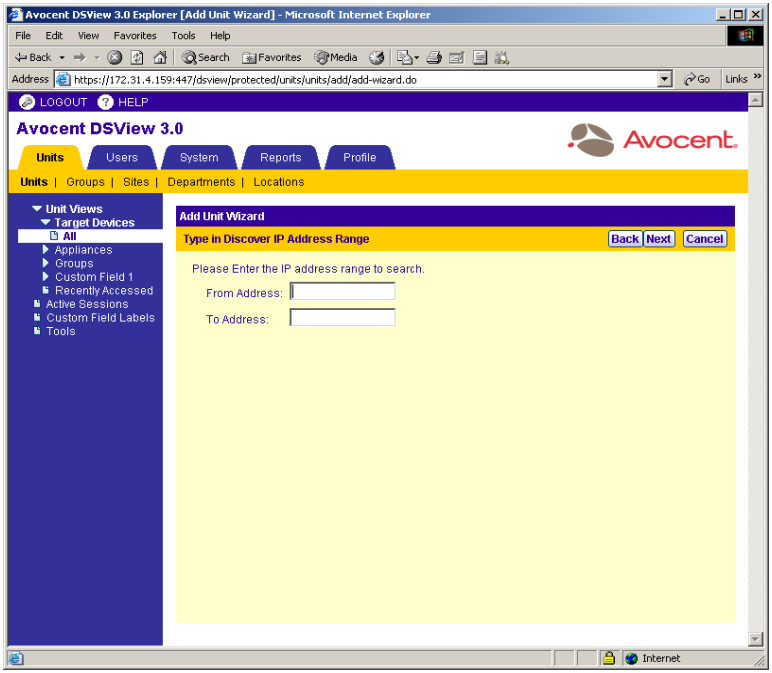


Figure 4.12: Add Unit Wizard - Type in Discover IP Address Range Window

   a. Type an IP address, in standard dot notation (xx.xx.xx.xx) from which to begin the search.
   b. Type an IP address, in standard dot notation (xx.xx.xx.xx) at which to end the search.
   c. Click *Next*.

4. The DSView software will search for DSR switches and CPS appliances within the IP address ranges. When the search is completed, the Select Appliances to Add window will appear containing the results.

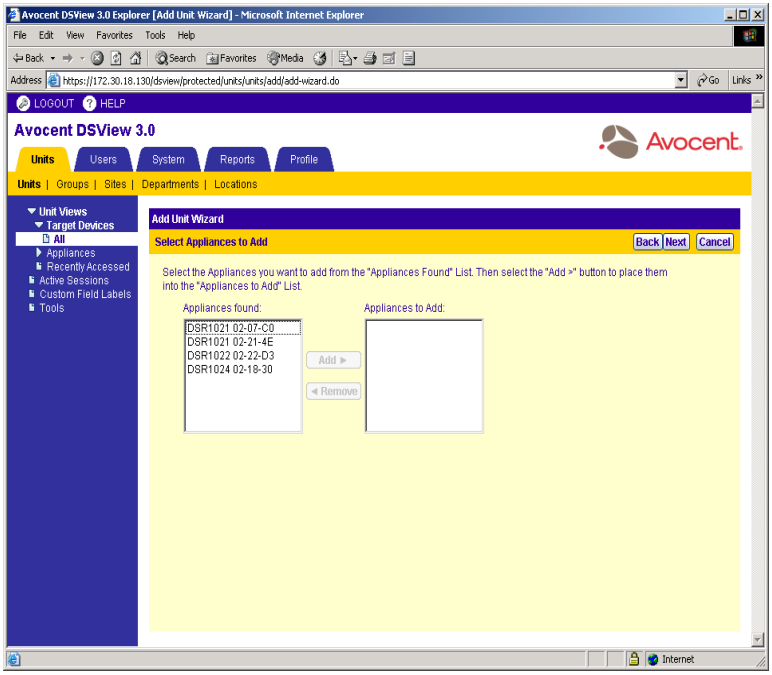


Figure 4.13: Add Unit Wizard - Select Appliances to Add Window

5. Specify the DSR switches and CPS appliances that you wish add:
   a. Select a DSR switch or CPS appliance in the Appliances found list. Multiple DSR switches and CPS appliances may be selected by pressing **Ctrl** while clicking on the DSR switch and CPS appliance names.
   b. Click *Add*. The DSR switches and CPS appliances will be moved to the Appliances to Add list.

NOTE: To remove selected DSR switches and CPS appliances, select the DSR switch or CPS appliance you wish to remove from the Appliances to Add list (multiple DSR switches and CPS appliances may be selected by pressing **Ctrl** while clicking on the DSR switch and CPS appliance names) and clicking *Remove*. The DSR switches and CPS appliances will be moved to the Appliances found list.

   c. Click *Next*.

6. The Select Options window will appear.

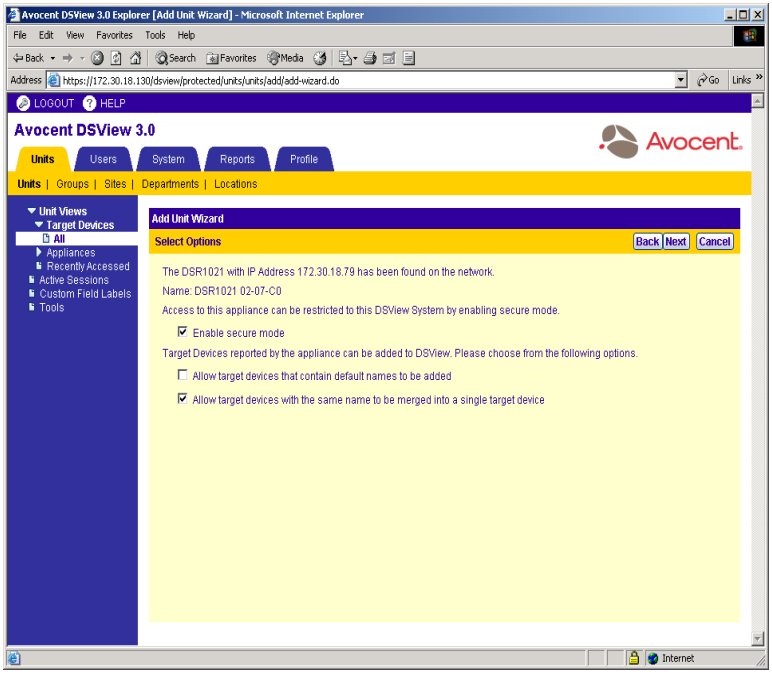

Avocent DSView 3.0 Explorer [Add Unit Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.30.18.130/dsview/protected/units/units/add/add-wizard.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
All
Appliances
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Add Unit Wizard
Select Options
Back Next Cancel
The DSR1021 with IP Address 172.30.18.79 has been found on the network.
Name: DSR1021 02-07-C0
Access to this appliance can be restricted to this DSView System by enabling secure mode.
Enable secure mode
Target Devices reported by the appliance can be added to DSView. Please choose from the following options.
Allow target devices that contain default names to be added
Allow target devices with the same name to be merged into a single target device
Internet

Figure 4.14: Add Unit Wizard - Select Options Window

a. Click *Enable Secure Mode* if you wish for the DSR switch or CPS appliance to only be accessible by this DSView system.

a. Click *Prevent Target Devices that contain default names from being added* if you wish to prevent the adding of any target devices whose port names have not been modified from the factory defaults of the DSR switches and CPS appliances.

b. Click *Allow Target Devices with the same name to be merged into a single Target Device* if you wish to merge a target device that has multiple connections into a single target device. For example, a target device may be connected to a both a DSR switch and an SPC device outlet connected to a CPS appliance.

c. Click *Next*.

7. The Adding Appliances window will appear while the selected DSR switches and CPS appliances are added to the DSView system.
8. The Completed Successful window will appear.
9. Click *Finish.*

To add a single EVR1500 environmental monitor or generic appliance:

1. Click *Add* in a Unit Views window.
   The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

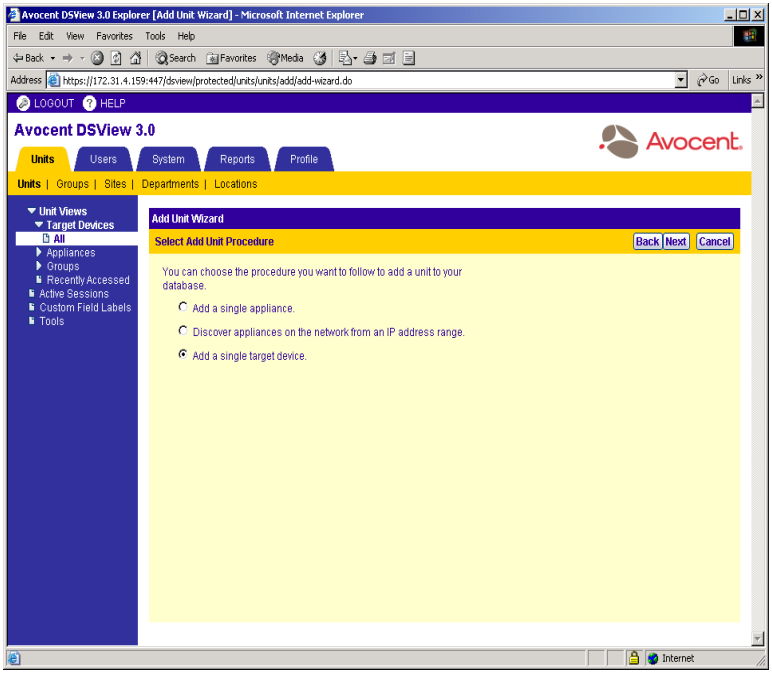

Avocent DSView 3.0 Explorer [Add Unit Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/add/add-wizard.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Target Devices
All
Appliances
Groups
Recently Accessed
Active Sessions
Custom Field Labels
Tools
Add Unit Wizard
Select Add Unit Procedure
Back Next Cancel
You can choose the procedure you want to follow to add a unit to your database.
Add a single appliance.
Discover appliances on the network from an IP address range.
Add a single target device.
Internet

Figure 4.15: Add Unit Wizard - Select Add Unit Procedure Window

   a. Click *Add a single appliance*.
   b. Click *Next*.

3. The Select Appliance Type window will appear.

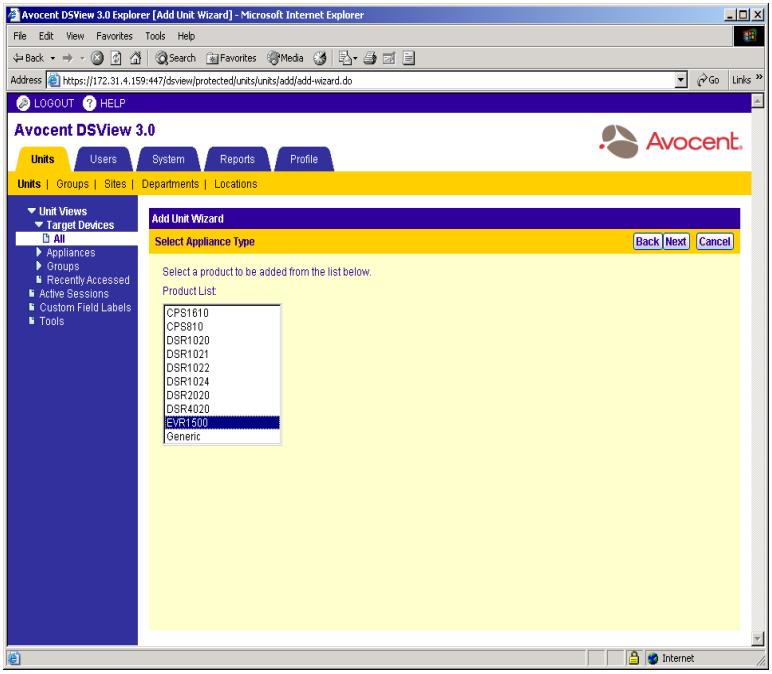


Figure 4.16: Add Unit Wizard - Select Appliance Type Window

   a. Select *EVR1500* or *Generic* from the product list.
   b. Click *Next*.

4. A Configure Generic Appliance Settings window will appear including the name of the EVR1500 environmental monitor or generic appliance.

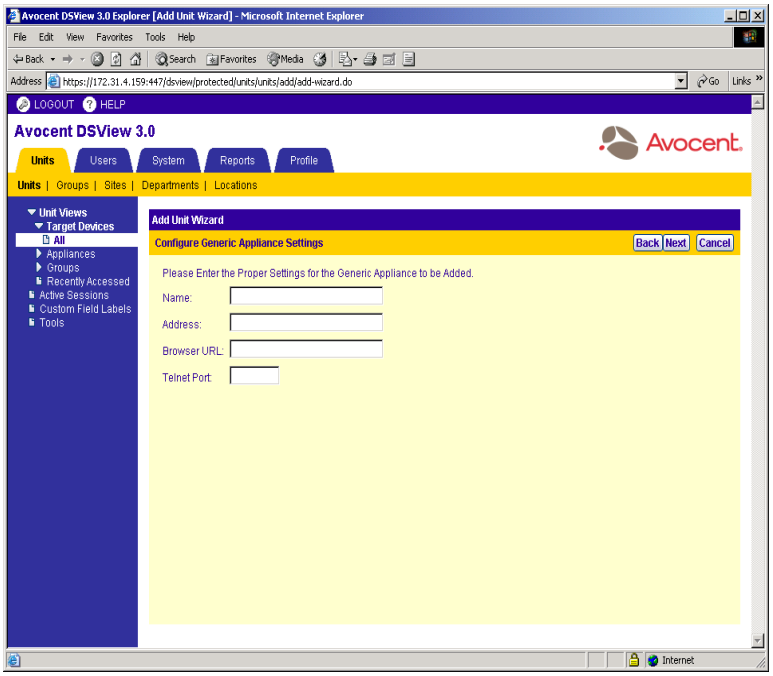


Figure 4.17: Add Unit Wizard - Configure Generic Appliance Settings Window

a. Type the name of the EVR1500 environmental monitor or generic appliance.

b. (optional) Type either the address or the fully qualified domain name of the EVR1500 environmental monitor or generic appliance.

   -and-

   (optional) Type the Telnet port for the EVR1500 environmental monitor or generic appliance.

c. (optional) Type the web browser URL for the EVR1500 environmental monitor or generic appliance.

d. Click *Next*.

5. The Completed Successful window will appear.
6. Click *Finish*.

To add a target device:

1. Click *Add* in a Unit Views window.
   The Welcome page of the Add Unit Wizard will appear. Click *Next*.
2. The Select Add Unit Procedure window will appear.

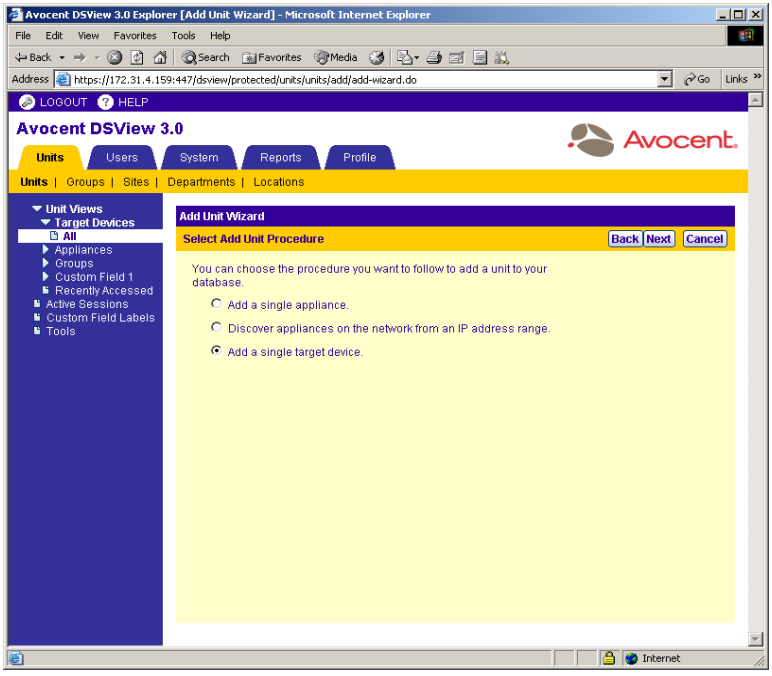


Figure 4.18: Select Add Unit Procedure Window

   a. Click *Add a single target device*.
   b. Click *Next*.

3. The Type in Device Settings window will appear.

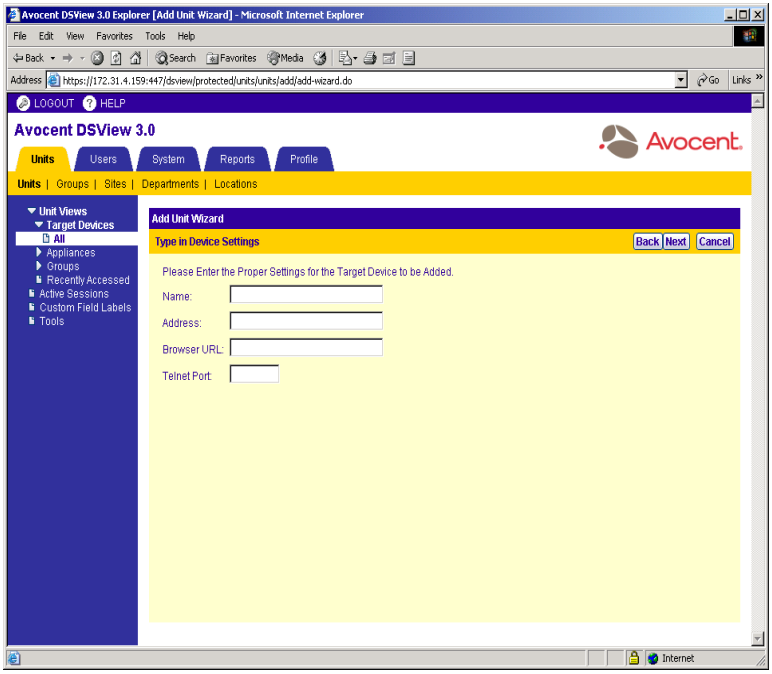


Figure 4.19: Type in Device Settings Window

   a. Type the name of the target device.
   b. (optional) Type either the address or the fully qualified domain name of the target device.
      -and-
      (optional) Type the Telnet port for the target device.
   c. (optional) Type the web browser URL for the target device.
   d. Click *Next*.
4. The Completed Successful window will appear.
5. Click *Finish*.

Managing Units

Clicking on a unit in one of the windows beneath Unit Views in the side navigation bar allows you to modify items related to the unit.

The following items may be modified for units:

- Overview
- Properties
- Access Rights (appears only for DSView users who are DSView Administrators or User Administrators)
- Appliance Settings (DSR switches and CPS appliances only)
- Connections (DSR switches, CPS appliances and target devices only)

To display modifiable items for units:

1. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar and *Unit Views* - *Target Devices* - *All* is automatically selected in the side navigation bar.
2. Click on the *Target Devices*, *Appliances*, *Sites* or <*Custom Field Name*> link in the side navigation bar and then click on the type of unit you wish to display. You may also click *Recently Accessed* to display a list of recently accessed units.
3. Click on the name of a unit. The name of the unit and a list of item links will appear in the side navigation bar. The Unit Overview window will also appear.

Modifying unit overview information

Clicking on the name of a unit will cause the side navigation bar to change, with the name of the unit displayed at the top of the side navigation bar. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. This window contains the following information:

- Target Devices - The name, type and icon associated with the target device. You may also use this window to connect to the target device. The available connection methods are determined by the type of target device. See *Customizing Unit Views windows* on page 127 for more information. If the target device is connected to one or more SPC device outlets, you may power up, power down or cycle the power of the target device.
- DSR switches and CPS appliances - The name and type of managed appliance and tools that may be used to perform the following DSR switch and CPS appliance tasks:
  - Rebooting a DSR switch or CPS appliance
  - Upgrading the firmware on a DSR switch or CPS appliance
  - Resyncronizing a DSR switch or CPS appliance
  - Saving or restoring the configuration of a DSR switch or CPS appliance
  - Saving or restoring the user database of a DSR switch or CPS appliance

See *Using DSR Switch and CPS Appliance Tools* on page 356 for information.

NOTE: The available tasks depend on the type of managed appliance and the DSView user's rights on the managed appliance.

- EVR1500 environmental monitor or generic appliance - The name and type of EVR1500 environmental monitor or generic appliance and links for establishing a connection to the EVR1500 environmental monitor or generic appliance.

NOTE: The Type field of managed appliances cannot be modified.

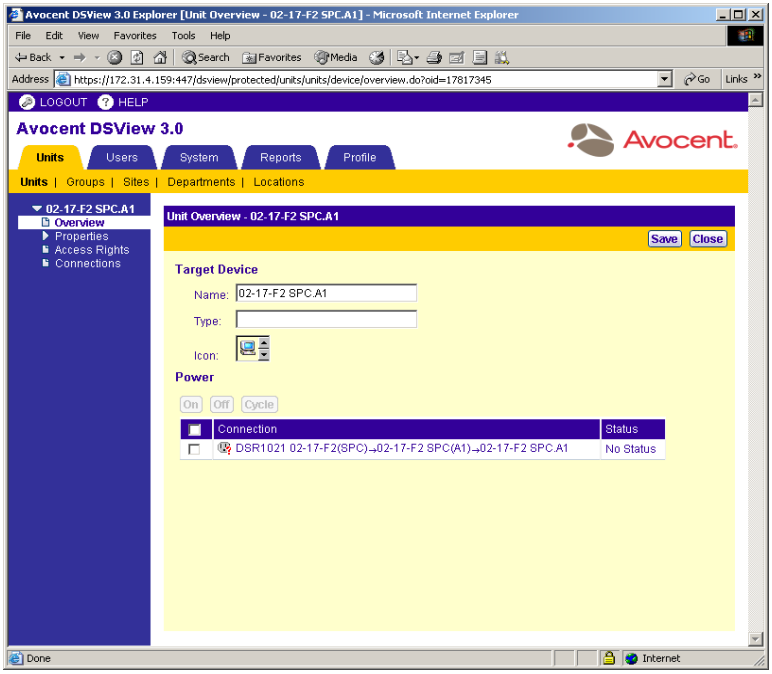


Figure 4.20: Unit Overview Window (Target Devices)

NOTE: Power information appear in the Unit Overview window only if the target device is connected to a SPC device outlet and the DSView user has power control rights.

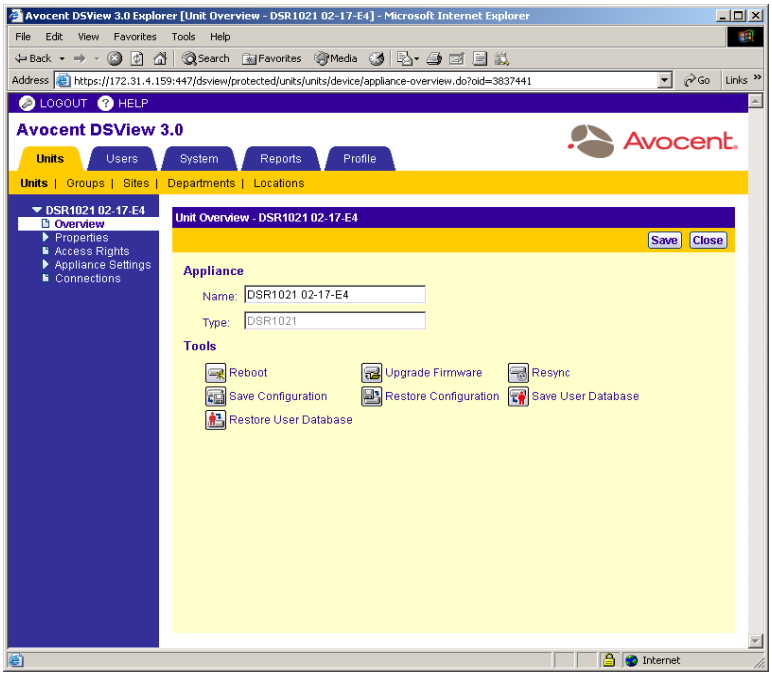


Figure 4.21: Unit Overview Window (DSR Switches and CPS Appliances)

To modify target device overview information:

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Type a name for the target device.
3. Type a new type for the target device.
4. Choose a new icon for the target device using the arrows.
5. Click *Save*.
6. Click *Close*. A Unit Views window will appear including the new name, type and/or icon for the target device. If you added a type and the type has not previously been defined, it will appear beneath Target Devices in the side navigation bar.

To start a DSView session with a target device using the Unit Overview window:

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Click *Exclusive KVM Session* if you wish to start a DSView KVM session without allowing others to connect (share) the session. Otherwise, continue to step .

Click on the icon or name of the type of session you wish to start:

- *KVM Session* - A Video Viewer window will appear.
- *Browser Session* - A web browser window will appear.

- *Telnet Session* - A Telnet/SSH applet window will appear.
- *Serial Session* - A Telnet/SSH applet window will appear.

To change the power state of a target device:

NOTE: To change the power state, a DSView user must have power control privileges and the target must be connected to and powered by an SPC device outlet. See *Modifying unit access rights* on page 161 and *Managing SPC device port settings* on page 180 for more information.

1. From the side navigation bar, click *Overview*. The Unit Overview window will appear.
2. Click the checkbox to the left of the SPC device outlet for which you wish to change the power state.

   -or-

   Click the checkbox to the left of Connection at the top of the list to select all SPC device outlets listed in the window.
3. Click *On* to power up the SPC device outlets.

   -or-

   Click the *Off* to power down the SPC device outlets.

   -or-

   Click *Cycle* to cycle the power (power down and then power up) the target device connected to the SPC device outlet.

To change the name of a managed appliance:

1. From a Unit Views window, click on a managed appliance name. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear.
2. Type a name for the managed appliance.
3. Click *Save*.
4. Click *Close*. The Unit Views window will appear including the new name of the managed appliance.

Modifying unit properties

A number of unit properties may be modified by clicking on a unit name in a Unit Views window, which displays the Unit Overview Window. Clicking a link beneath *Properties* in the side navigation bar will display a list of properties you may modify.

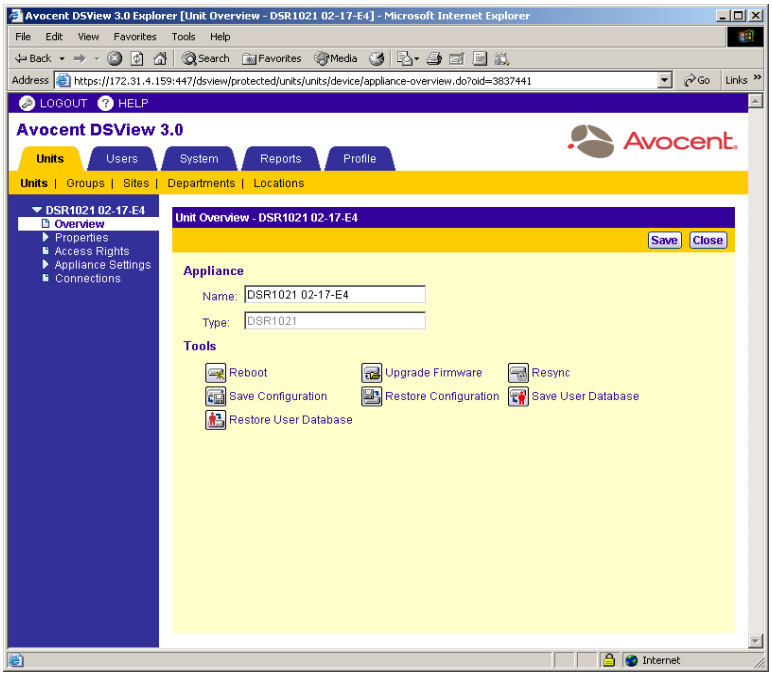


Figure 4.22: Unit Overview Window (DSR Switches and CPS Appliances)

If you have Configure Appliance Settings rights on the unit (specified using the Unit Access Rights window) or are a member of the DSView Administrators or Appliance Administrators built-in user groups, you may modify the following properties for a unit:

- Identity
- Location
- Contacts
- Custom Fields
- Notes
- Network

Some properties display by default in a Unit Views window, while others must be displayed using the *Customize* link in the top right corner of the window. See *Using the Customize Link in DSView Software Windows* on page 15 for more information on customizing windows.

Modifying unit identity properties

The identity properties are information that identifies a unit and appears in a Unit Views window. Assigning identity properties may be helpful for quickly identifying information about a particular unit.

You may modify the following identity properties:

- The part number
- The serial number
- The model number
- The asset tag number assigned by your organization

NOTE: Identity properties are visual representations only. Defining incorrect information may cause confusion. For example, mistyping a serial number and so on.

To modify the identity properties of a unit:

1. From the side navigation bar, click *Properties*. *Identity* will be automatically selected and the Unit Identification Properties window will appear.

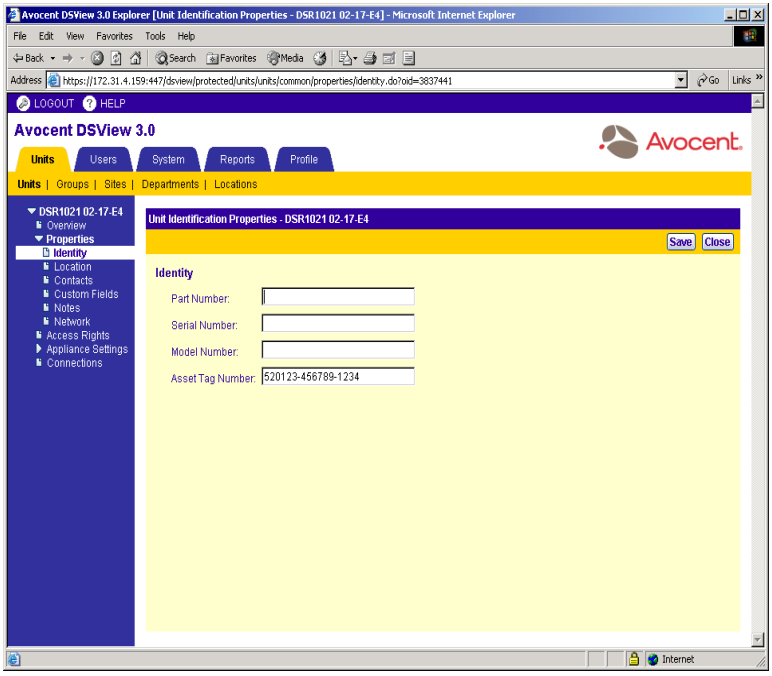


Figure 4.23: Unit Identification Properties Window

2. Type a part number for the unit.
3. Type the serial number for the unit.
4. Type the model number for the unit.
5. Type the asset tag number for the unit.

6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit location properties

The location properties identify the location of a unit and appear in fields in the Unit Views windows. Assigning location properties may be helpful for quickly identifying where a particular unit is located.

You may modify the following location properties:

- Site (country, city and so on)
- Department (R&D, support and so on)
- Location (floor, room and so on)

NOTE: Location properties are visual representations only. Defining incorrect information may cause confusion. For example, a mistyped room number.

The location properties may be used together to provide a more detailed explanation of where a unit is located. For example, a target device may be located at the Boston site in the accounting department and located in room 110.

If no sites, departments or locations are available, they may be added to the DSView system. See *Managing Units Using Sites* on page 296 for information on adding sites, *Managing Units Using Departments* on page 303 for information on adding departments and *Managing Units Using Locations* on page 308 for information on adding locations.

To modify the location properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Location*. The Unit Location Properties window will appear.

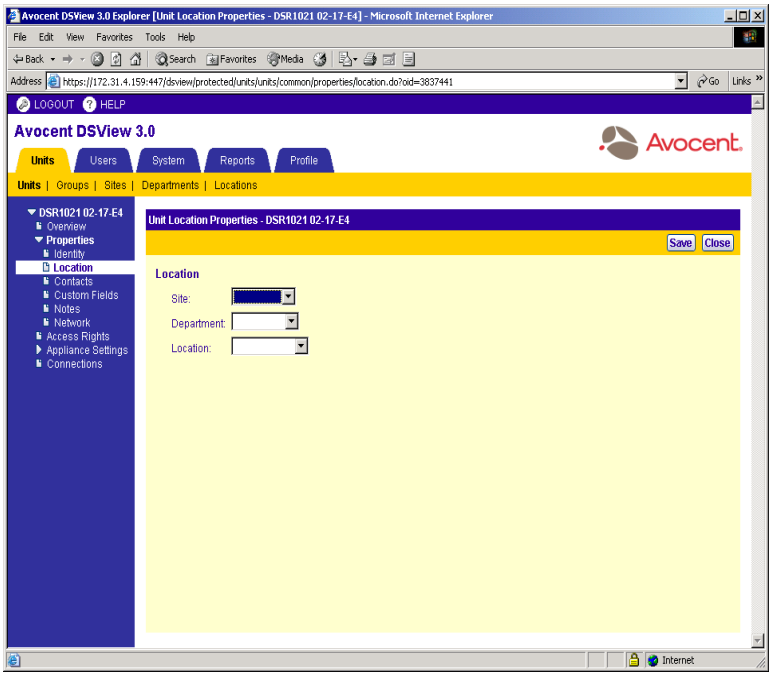


Figure 4.24: Unit Location Properties Window

3. Type or use the drop-down list to select the site where the unit is located.
4. Type or use the drop-down list to select the department where the unit is located.
5. Type or use the drop-down list to select the location where the unit is located.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit contact properties

The contact properties are information that identifies the contacts for a unit and appear in the Unit Views window. Assigning contact properties may be helpful for quickly identifying a person to notify if an issue or question arises about a particular unit.

You may modify the following contact properties:

- Primary contact and phone number
- Secondary contact and phone number

NOTE: Contact properties should be kept up-to-date.

To modify the contact properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Contacts*. The Unit Contacts window will appear.

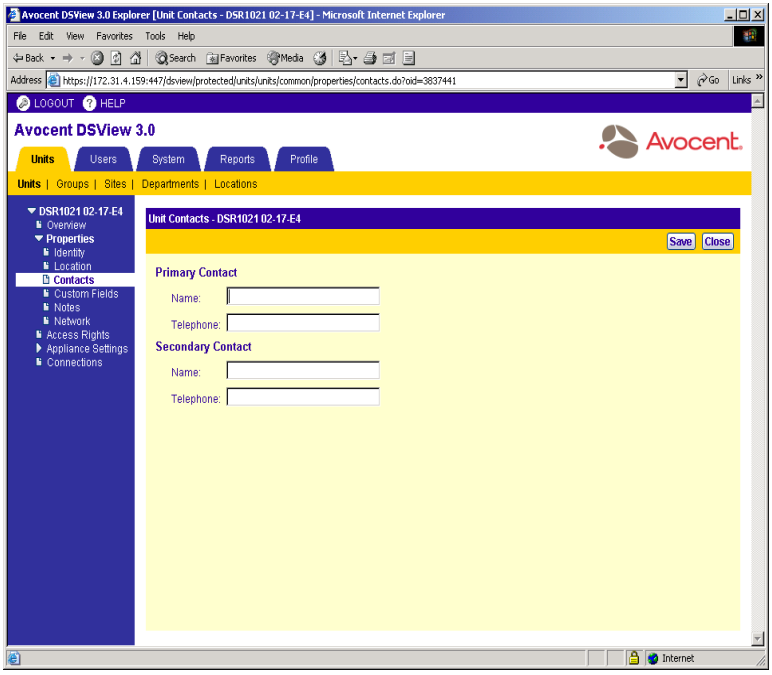


Figure 4.25: Unit Contacts Window

3. Type the name of the primary contact for the unit.
4. Type the phone number of the primary contact for the unit.
5. Type the name of the secondary contact for the unit.
6. Type the phone number of the secondary contact for the unit.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit custom field properties

Three custom fields are provided within the DSView software. You may specify any information you wish in these fields for display in an Appliances window and the side navigation bar. For example, you may wish to define custom fields such as program manager, building number and so on. See *Managing Units using Custom Fields* on page 323 for more information on using custom fields.

To modify the custom fields of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear.

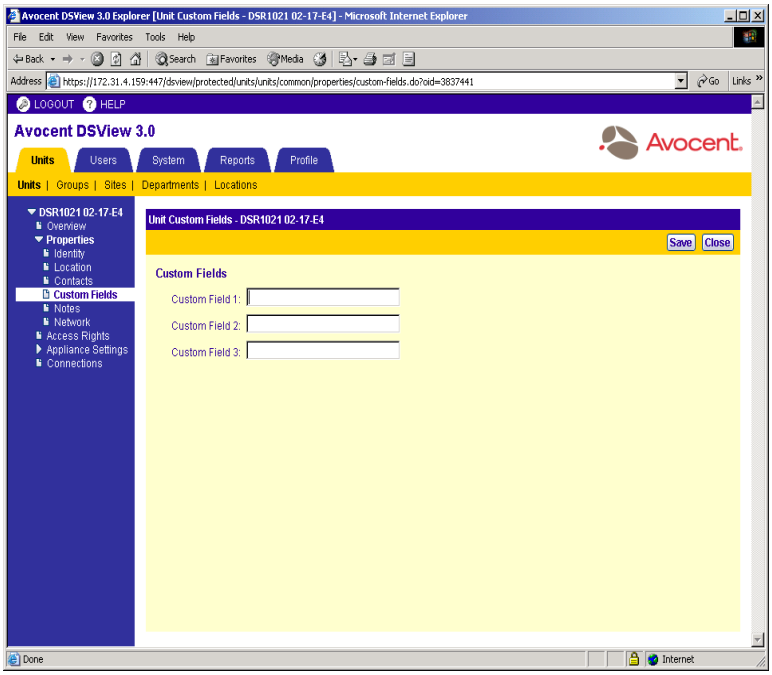


Figure 4.26: Unit Custom Fields Window

3. Type the information in the fields. You may also leave the fields blank.
4. Click *Save* to save your changes.
5. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit note properties

The note properties are information that you may wish to keep about a unit.

You may modify the following note properties:

- Description
- Accounting
- Comments

To modify the note properties of a unit:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Notes*. The Unit Notes window will appear.

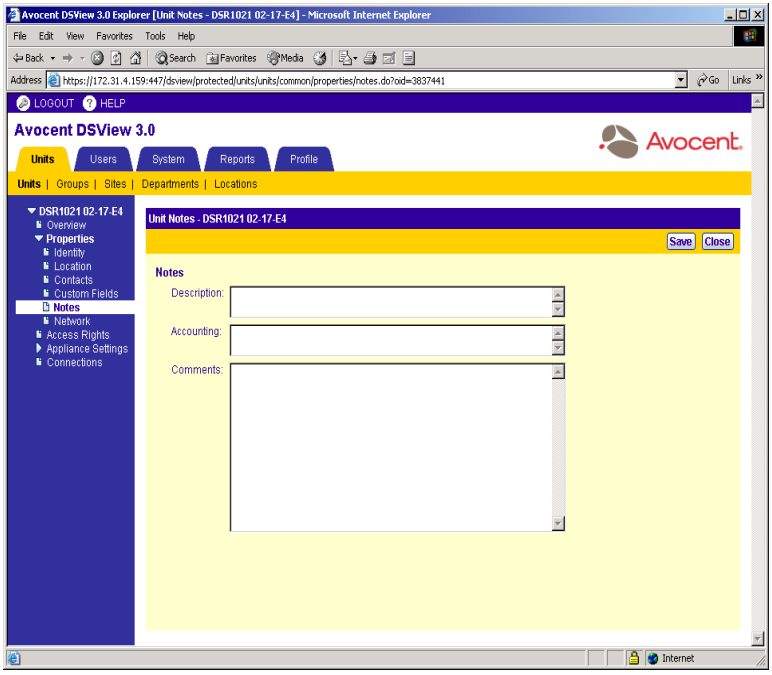


Figure 4.27: Unit Notes Window

3. Type the description information for the unit name.
4. Type the accounting information for the unit name.
5. Type the comments for the unit name.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit network properties

The network properties are information that defines the network configuration of a managed appliance and appear in the Unit Views window.

You may modify the following network properties of units:

- The address or the fully qualified domain name of the unit
- The DSView Server to which the unit is connected

The additional network properties may be modified for target devices, EVR1500 environmental monitors and generic appliances:

- The Telnet port used for communication with the DSView Server
- The URL used for web browser connections

NOTE: Defining incorrect information may cause network connection errors.

To modify the network properties of a target device:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

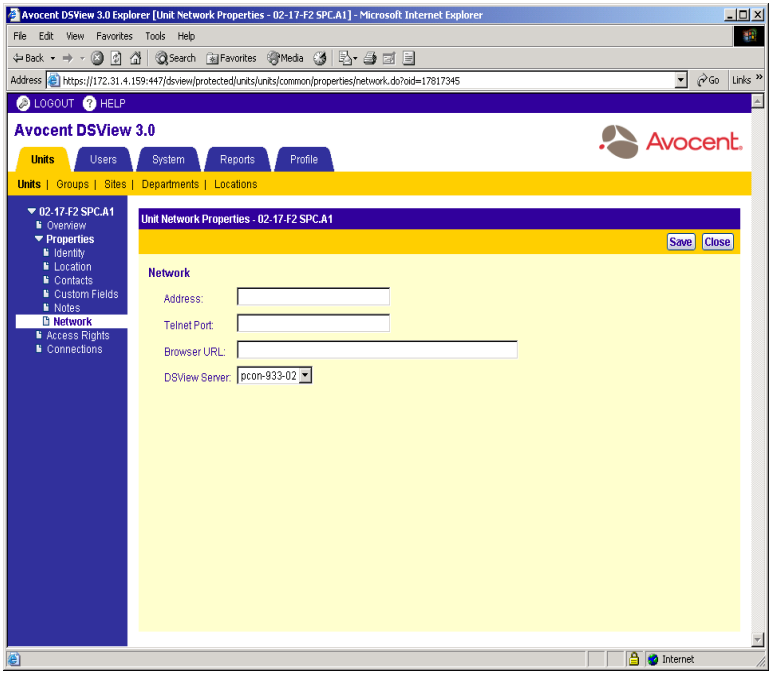


Figure 4.28: Unit Network Properties (Target Device)

3. Type type the address or the fully qualified domain name for the target device.
4. Type Telnet port to use for Telnet connections to the target device. If this field is left blank, Telnet will not be enabled for the target device.
5. Type the URL for a web browser connection to the target device.
6. Select the DSView Server that is in charge of the target device.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

To modify the network properties of a DSR switch or CPS appliance:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

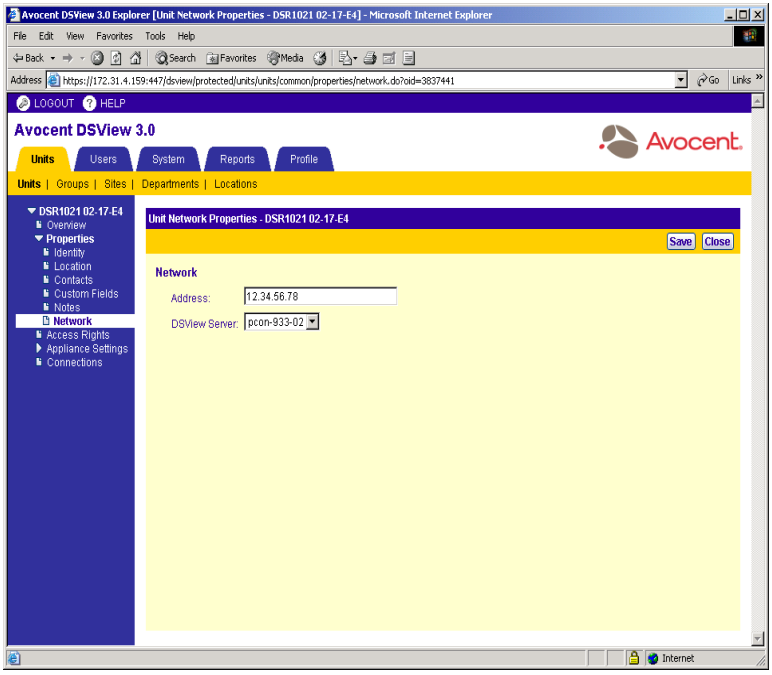


Figure 4.29: Unit Network Properties Window (DSR Switches and CPS Appliances)

3. Type the type the address or the fully qualified domain name for the DSR switch or CPS appliance.
4. Select the DSView Server that is in charge of the DSR switch or CPS appliance.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear including any modifications.

To modify the network properties of an EVR1500 environmental monitor or generic appliance:

1. From the side navigation bar, click *Properties*.
2. From the side navigation bar, click *Network*. The Unit Network Properties window will appear.

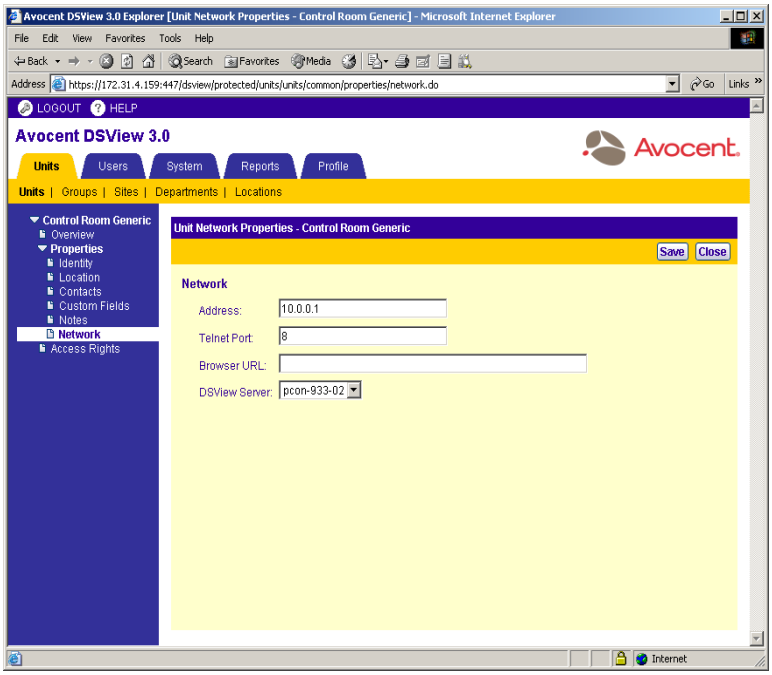


Figure 4.30: Unit Network Properties Window (Generic Appliances)

3. Type the type the address or the fully qualified domain name for the EVR1500 environmental monitor or generic appliance.
4. Select the DSView Server that is in charge of the EVR1500 environmental monitor or generic appliance.

   If you are modifying a generic appliance, continue to step 5. If you are modifying an EVR1500 environmental monitor, go to step 7.
5. Type a Telnet port number for the EVR1500 environmental monitor or generic appliance.
6. Type a web browser address.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear including any modifications.

Modifying unit access rights

Units are assigned to DSView users and user groups, which determine the actions that may be performed on the units. The Unit Access Rights window enables you to change the group memberships of units.

You may specify whether DSView users belonging to a particular group does nor does not have permission to perform the following actions on target devices:

- Establish a Video Viewer session on target devices
- Power up, power down or cycle the power of target devices

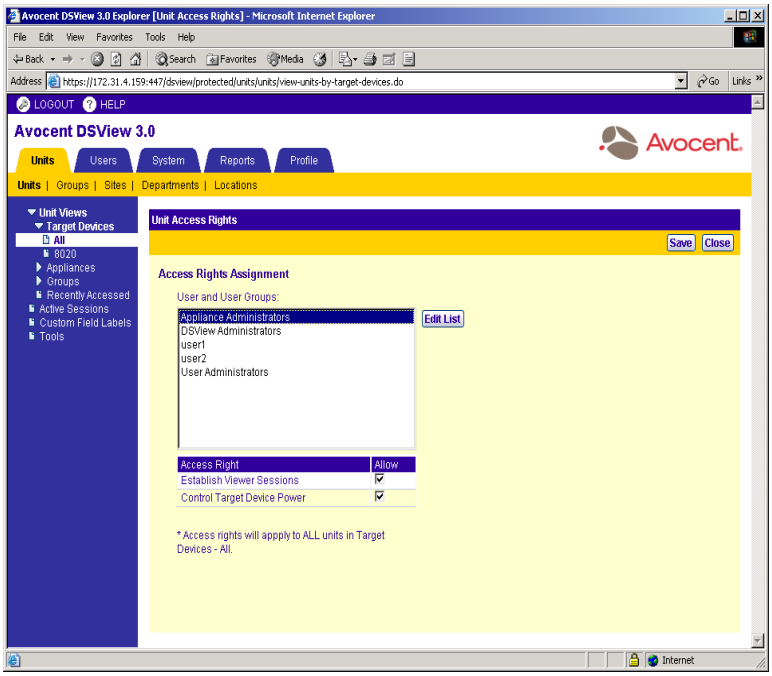


Figure 4.31: Unit Access Rights Window (Target Devices)

Additionally, you may specify whether a particular DSView user or user group has or does not have permission to perform the following actions on DSR switch or CPS appliance:

- Reboot a DSR switch or CPS appliance.
- Perform FLASH upgrades to a DSR switch or CPS appliance.
- Configure settings for a managed appliance.
- Configure local user accounts on a DSR switch or CPS appliance.

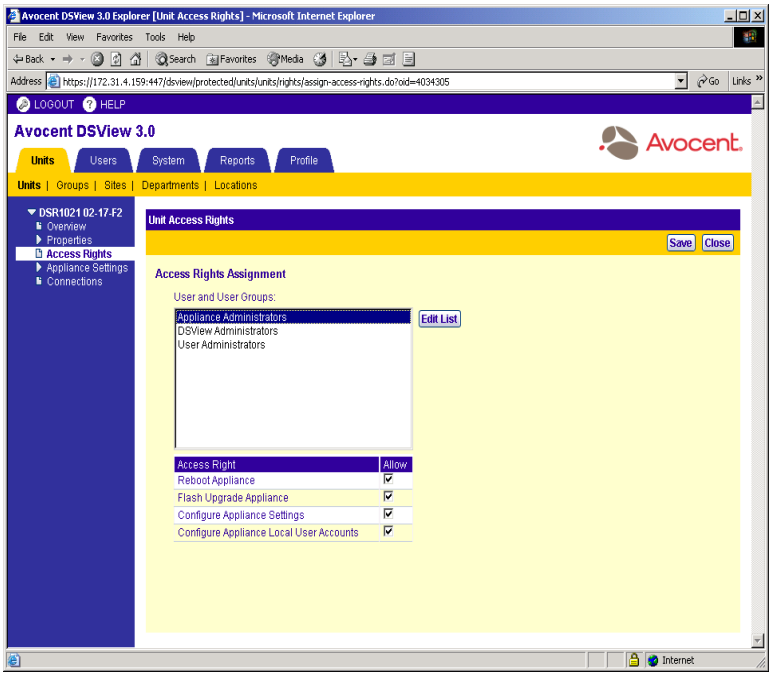


Figure 4.32: Unit Access Rights Window (DSR Switches and CPS Appliances)

Once you have defined the DSView users and user groups that you wish to have access rights to the unit, you may specify the specific access rights to grant. For example, you may wish to allow a DSView user to configure settings on a DSR switch or CPS appliance but not allow them to reboot the DSR switch or CPS appliance, or you may wish to allow a DSView user assigned Appliance Administrator privileges on the target devices to establish a Video Viewer session but not allow the DSView user to perform power control operations.

Access rights may also be specified for all units in the DSView system, or for a specific unit.

See *Managing DSView Users using User Groups* on page 329 for information on user groups. See *Launching a KVM session* on page 242 for information on establishing a Video Viewer session, *Modifying unit overview information* on page 147 for information for performing power control using the DSView 3.0 Explorer, *Power Controlling Target Devices* on page 270 for information on performing power control using a Video Viewer Window and *Power Controlling Target Devices (Serial Session Only)* on page 293 for information on performing power control using a Telnet/SSH applet.

To add or remove users and user groups to or from units:

1. From a Unit Views window, click on a unit name to add users or user groups to a single unit. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

-or-

Do not select any checkboxes and click the *Rights* button to add or remove users or user groups to all units in the view. For example if there are 100 units in the Target Devices - All window and only 10 are displayed in the view, click *Rights* in the Target Devices - All window to add users or user groups to all 100 of the target devices. Go to step 3.

-or-

Click the checkboxes next to units in a Unit Views window and then click the *Rights* button to add or remove users or user groups from the selected units. Go to step 3.

2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Click *Edit List*. The Unit Access Rights User Selection window will appear.

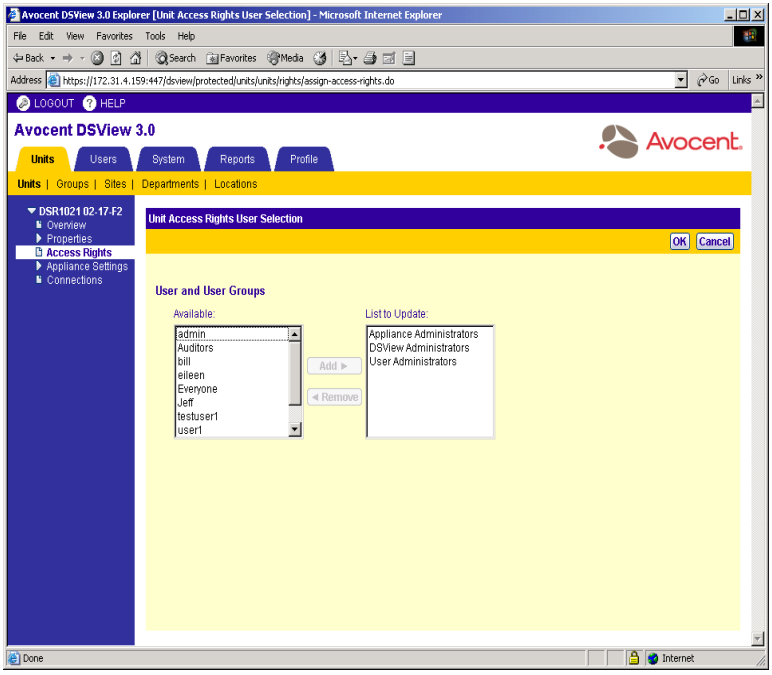


Figure 4.33: Unit Access Rights User Selection Window

4. Add a DSView user or user group:
   a. Select the DSView user or user group in the Available list. Multiple DSView users and/or user groups may be selected by pressing **Ctrl** while clicking on the column names.
   b. Click *Add*. The column(s) will be moved to the List to Update list.

   -or-

   Remove a DSView user or user group:

a. Select the column you wish to remove from the List to Update list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.

b. Click *Remove*. The column(s) will be moved to the Available list.

5. Click *OK*. The Assign Access Rights window will appear including the added DSView users and/or user group or without any removed DSView user and/or user groups. When a DSView user or user group is added to the DSView user and user group list, default access rights will be displayed on the Unit Access Rights window.
6. Click *Save* to save your changes.

To modify the access rights of target devices:

1. From a Unit Views window, click on a target device name to change the access rights for a single target device. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

   -or-

   Click the *Rights* button to change the access rights of all target devices. The Unit Access Rights window will appear. Go to step 3.

   -or-

   Click the checkboxes next to target devices in a Unit Views window and then click the *Rights* button to change the access rights of the selected target devices. Go to step 3.
2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Select a user in the User and User Groups list.
4. Select *Establish Viewer Sessions* if you wish to allow the DSView user or members of the user group to establish a Video Viewer session with the target device.
5. Select *Control Target Device Power* if you wish to allow the DSView user or members of the user group to power up, power down or cycle power to the target device.
6. Repeat steps 3-5 for each DSView user or user group for which you wish to change access rights.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear and either a KVM Session or Serial Session link will appear in the Action column. A power control option will appear in the Unit Overview window if you choose to allow the controlling of target device power.

To modify the access rights of managed appliances:

1. From a Unit Views window, click on a managed appliance name to change the access rights for a single target device. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. Continue to step 2.

   -or-

   Click the *Rights* button to change the access rights of all managed appliances. The Unit Access Rights window will appear. Go to step 3.

2. From the side navigation bar, click *Access Rights*. The Unit Access Rights window will appear.
3. Select a user in the User and User Groups list.
4. Click *Reboot Appliance* if you wish to allow the DSView user or members of the user group to reboot a DSR switch or CPS appliance.
5. Click *Flash Upgrade Appliance* if you wish to allow the DSView user or members of the user group to upgrade the appliance firmware of a DSR switch or CPS appliance.
6. Click *Configure Appliance Settings* if you wish to allow the DSView user or members of the user group to configure settings on a managed appliance.
7. Click *Configure Appliance Local User Accounts* if you wish to allow the DSView user or members of the user group to configure the account information of local users existing for the DSR switch or CPS appliance.
8. Repeat steps 3-7 for each DSView user or user group for which you wish to change access rights.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Modifying managed appliance settings

You use the Appliance Settings in the side navigation bar to specify or view the following network settings for managed appliances:

- Network Settings
- Authentication Server
- SNMP settings, including enabling SNMP, the IP addresses of service managers and destinations and community names
- Version numbers of managed appliance software and firmware
- Port management, including upgrading of DSRIQ modules, cascade switch, SPC device and modem configuration and OSCAR authentication
- Session management, including modifying settings and viewing and disconnecting sessions and specifying global macros
- Adding, removing and modifying local managed appliance accounts

To display the list of available appliance settings in the side navigation bar, click on a managed appliance name in the Unit Views window and then click *Appliance Settings*.

Modifying DSR switch and CPS appliance network settings

Network settings are read directly from a DSR switch or CPS appliance and include, among other settings, the IP address, subnet and gateway of the DSR switch or CPS appliance.

NOTE: The MAC address may not be modified.

To modify the network settings of a DSR switch or CPS appliance

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings in the side navigation bar, click *Network*. The Appliance Network Settings window will appear.

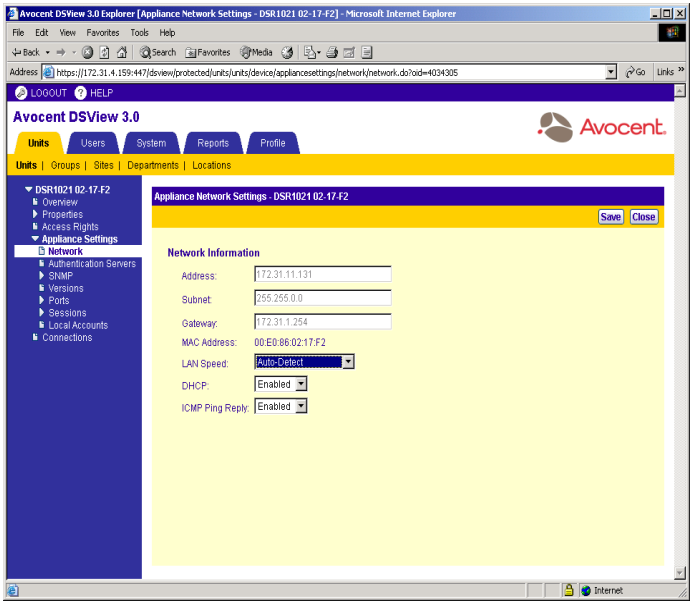


Figure 4.34: Appliance Network Settings WIndow (DSR Switch)

3. Type a new IP address, in standard dot notation (xx.xx.xx.xx) for the DSR switch or CPS appliance.
4. Type a new subnet, in standard dot notation (xx.xx.xx.xx) for the DSR switch or CPS appliance.
5. (Optional) Type a new gateway, in standard dot notation (xx.xx.xx.xx) for the DSR switch or CPS appliance.

   If you are modifying the network properties of a DSR switch, continue to step 6.

   If you are modifying the network properties of a CPS appliance, go to step 8.
6. Use the drop-down menu to specify a LAN speed.
7. Use the drop-down menu to specify if you wish for DHCP (DSR switches) or BOOTP (CPS appliances) to be enabled or disabled.
8. Use the drop-down menu to specify if you wish ICMP ping reply to be enabled or disabled.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Modifying managed appliance authentication server settings

The authentication server settings specify the IP addresses of the DSView Servers used for authentication. You may define the addresses of up to four DSView Servers.

To define the IP addresses of authentication servers for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings in the side navigation bar, click *Authentication Servers*. The Appliance Authentication Servers Settings window will appear.

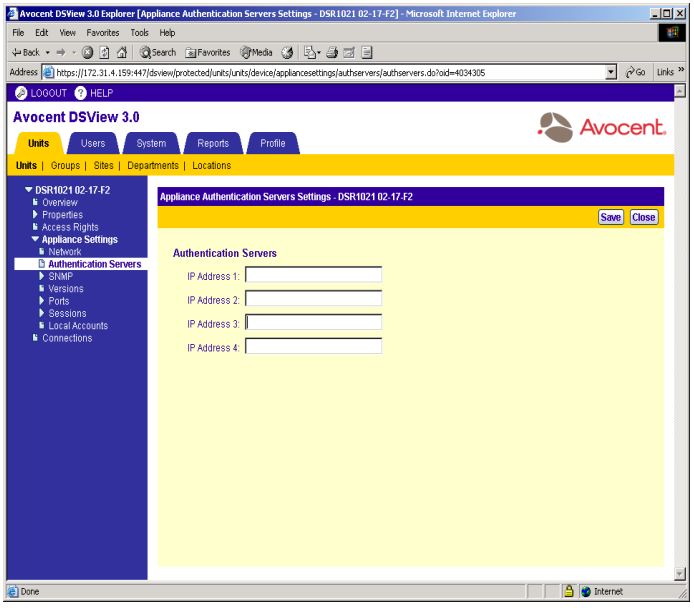


Figure 4.35: Appliance Authentication Servers Settings Window

3. Type an IP address, in standard dot notation (xx.xx.xx.xx) of up to four authentication servers.
4. Click *Save* to save your changes.
5. Click *Close*. The Unit Views window will appear.

Modifying DSR switch or CPS appliance SNMP settings

The SNMP appliance settings allow the DSView software to be configured to log enterprise (SNMP) traps sent by DSR switches and CPS appliances.

An SNMP trap is a notification sent by a DSR switch or CPS appliance to a host system indicating that an event has occurred in the DSR switch or CPS appliance that may require further attention. SNMP is a protocol used to communicate management information between network management applications and DSR switches and CPS appliances using TCP/IP and IPX protocols. Other external SNMP managers (such as Tivoli® and HP OpenView) may communicate with your DSR switches and CPS appliances by accessing MIB-II (Management Information Base) and the public portion of the enterprise MIB. MIB-II is a standard MIB that many SNMP target devices support. DSR switches and CPS appliances will send their traps directly to the external SNMP manager in addition to sending it to the DSView Server.

When you access a DSR switch or CPS appliance for the first time, the DSView software will retrieve the SNMP parameters from the DSR switch or CPS appliance.

DSR switches and CPS appliances are defined in the DSView software using the following settings, which appear beneath SNMP in the side navigation bar:

- System - Allows SNMP to be enabled or disabled
- Managers - Specifies which stations may manage the DSR switch or CPS appliance
- Community - The communities to which the traps belong
- Destinations - The stations which may receive SNMP traps from the switch
- Traps - Lists all available traps and allows the traps to be enabled or disabled

If you select *System* beneath SNMP in the side navigation bar and then select *Enabled* from the Enable SNMP drop-down menu in the Appliance SNMP System Settings window, the DSR switch or CPS appliance will log SNMP received messages over UDP (User Datagram Protocol) port 162. The traps must be configured on each DSR switch and CPS appliance using the Command Line Interface (CLI). The address of the server running the DSView software must be configured as a trap recipient, the proper community must be set, and each desired trap must be enabled.

All SNMP traps are logged in the audit log file. See *Working with Audit Logs* on page 401 for more information.

To enable or disable SNMP system settings for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *SNMP*. *System* is automatically selected in the side navigation bar and the Appliance SNMP System Settings window will appear.

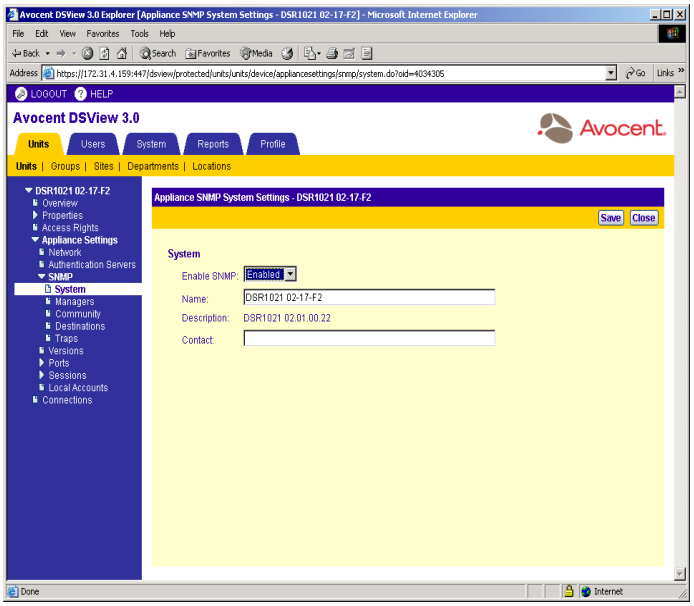


Figure 4.36: Appliance SNMP System Settings Window

3. Select *Enabled* the drop-down menu to specify logging of SNMP traps over UDP port 161.
4. If you wish, modify the name and description of the DSR switch or CPS appliance and type a contact in the fields.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To enable or disable SNMP manager settings for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *SNMP*.
3. From beneath SNMP, click *Managers*. The Appliance SNMP Manager Settings window will appear.

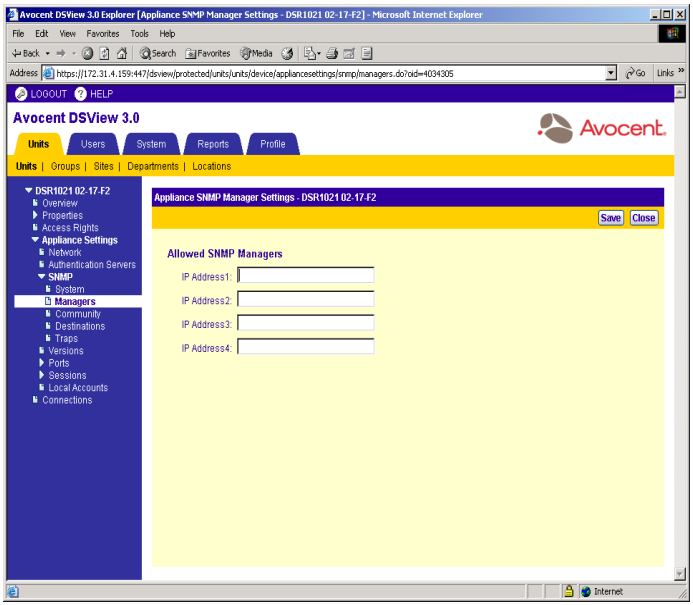


Figure 4.37: Appliance SNMP Manager Settings Window

4. Type the IP addresses, in standard dot notation (xx.xx.xx.xx) of up to four SNMP managers.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To specify SNMP community settings for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *SNMP*.
3. From beneath SNMP, click *Community*. The Appliance SNMP Community Settings window will appear.

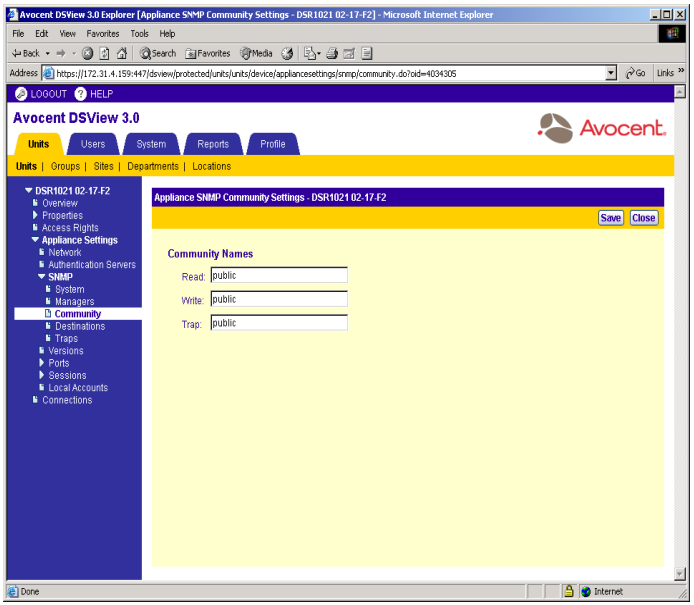


Figure 4.38: Appliance SNMP Community Settings Window

4. Type the SNMP community name for reading.
5. Type the SNMP community name for writing.
6. Type the SNMP community name for SNMP traps.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear.

To specify SNMP destination settings for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *SNMP*.
3. From beneath SNMP, click *Destinations*. The Appliance SNMP Destination Settings window will appear.

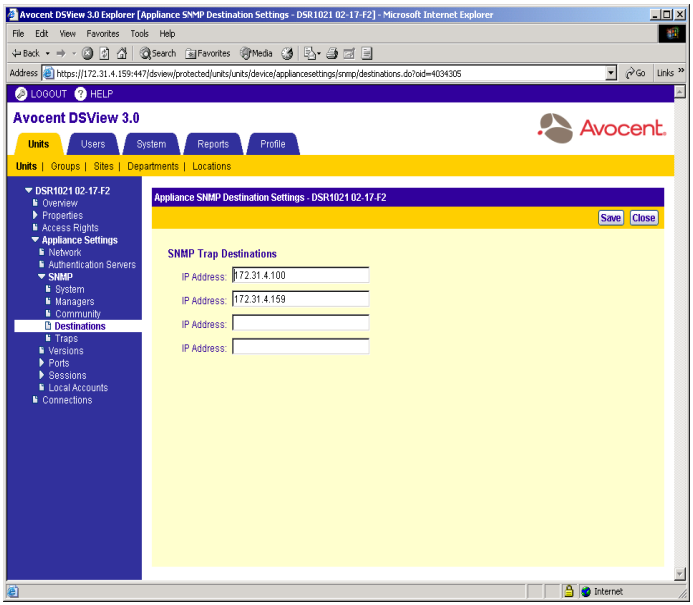


Figure 4.39: Appliance SNMP Destination Settings Window

4. Type the IP addresses, in standard dot notation (xx.xx.xx.xx) of up to four SNMP destinations.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

To enable or disable SNMP traps for a DSR switch or CPS appliance:

NOTE: SNMP traps may also be configured from a system task. See *Managing Tasks* on page 368 for more information.

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *SNMP*.
3. From beneath SNMP, click *Traps*. The Appliance SNMP Trap Settings window will appear.

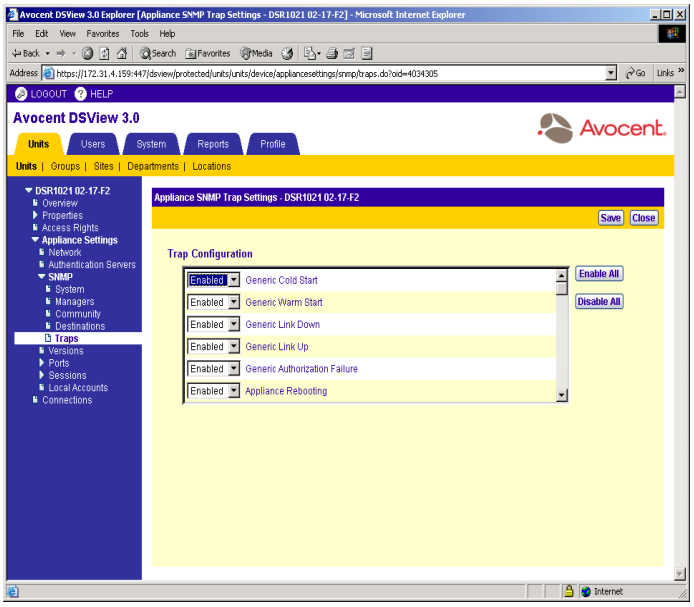


Figure 4.40: Appliance SNMP Trap Settings Window

4. Modify the state of each SNMP trap by selecting one of the following from the trap's drop-down menu:
   - Select *Enabled* to turn the trap on.
   - Select *Disabled* to turn the trap off.

   -or-

   Click one of the following buttons:
   - Click *Enable All* to turn all traps on.
   - Click *Disable All* to turn all traps off.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Views window will appear.

Displaying DSR switch or CPS appliance version information

Clicking on the *Versions* link below Appliance Settings in the side navigation bar displays the following DSR switch or CPS appliance information:

- For DSR switches - Application, boot, OSCAR FPGA and video FPGA versions
- For CPS appliances - Bootstrap and application versions

To display version information for a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Versions*. The Appliance Version Information window will appear.

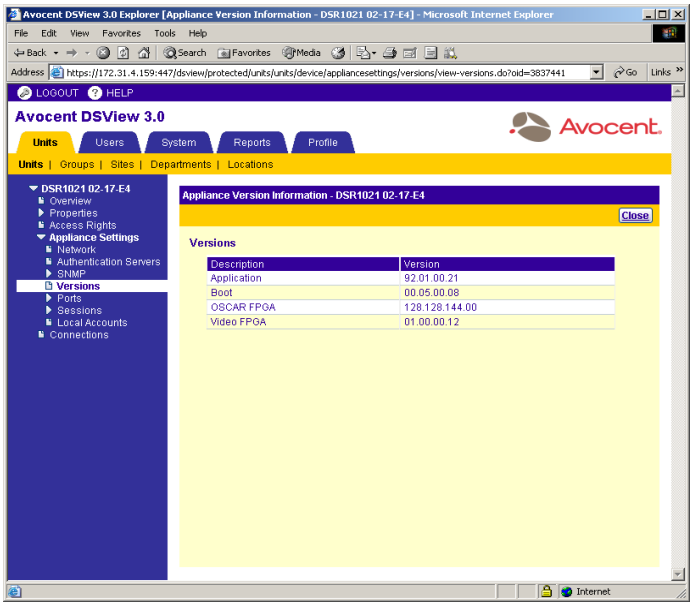


Figure 4.41: Appliance Version Information Window (DSR Switch)

3. Click *Close*. The Unit Views window will appear.

Modifying DSR switch or CPS appliance port settings

The following port settings may be viewed and modified for all DSR switches:

- IQ Adaptors (DSRIQ and AVRIQ modules)
- Cascade switches
- OSCAR
- Modem

The following port setting may be viewed and modified for CPS appliances and DSR switches:

- SPC - See *Managing SPC device port settings* on page 180 for information on modifying SPC device port settings.

The following port settings may be viewed and modified for all CPS appliances:

- Serial
- CLI

To delete offline DSRIQ modules (DSR switches only):

NOTE: An offline adaptors will appear with a red circle and an “X” to the left of its EID. An online adaptor will appear with a green circle to the left of its EID.

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*. *IQ Adaptors* is automatically selected in the side navigation bar and the Appliance IQ Modules window will appear.

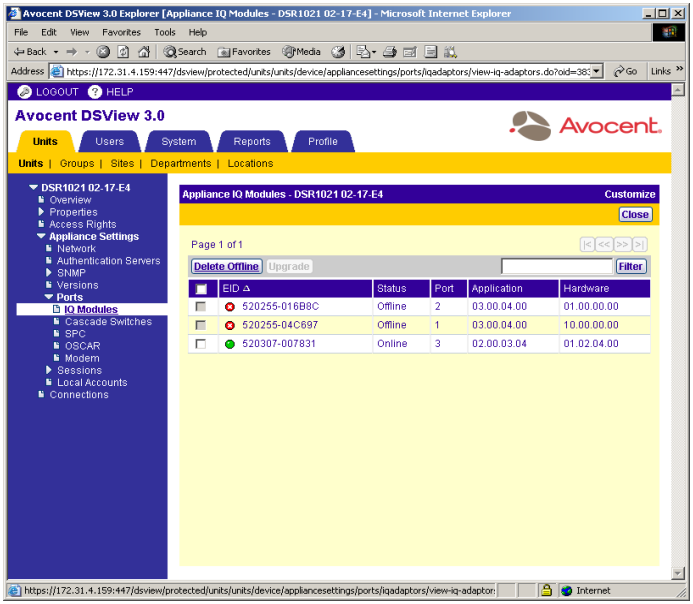


Figure 4.42: Appliance IQ Modules Window

3. Click *Delete Offline*. A confirmation dialog box will appear.
4. Click *Yes* to delete the DSRIQ modules

   -or-

   Click *No* to cancel the action.

To upgrade DSRIQ modules (DSR switches only):

NOTE: Offline DSRIQ modules may not be selected for upgrading.

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*. *IQ Adaptors* is automatically selected in the side navigation bar and the Appliance IQ Modules window will appear.
3. Click the checkbox to the left of the DSRIQ modules you wish to upgrade.

   -or-

   Click the checkbox to the left of EID at the top of the list to select all DSRIQ adaptors listed in the window for upgrading.
4. Click *Upgrade*. A confirmation dialog box will appear.
5. Click *OK* to upgrade the DSRIQ modules. A yellow LED icon will appear to the left of the upgrading modules. You may click on the name of a DSRIQ module in the EID column to view its upgrade status in the Appliance Settings - Ports - IQ Modules - Settings window. When the upgrade is completed, a green circle will appear next to the modules and they may once again be selected.

   -or-

   Click *Cancel* to cancel the action.

To view cascade switch port settings (DSR switches only):

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath *Ports*, click *Cascade Switches*. The Appliance Cascade Switches window will appear.

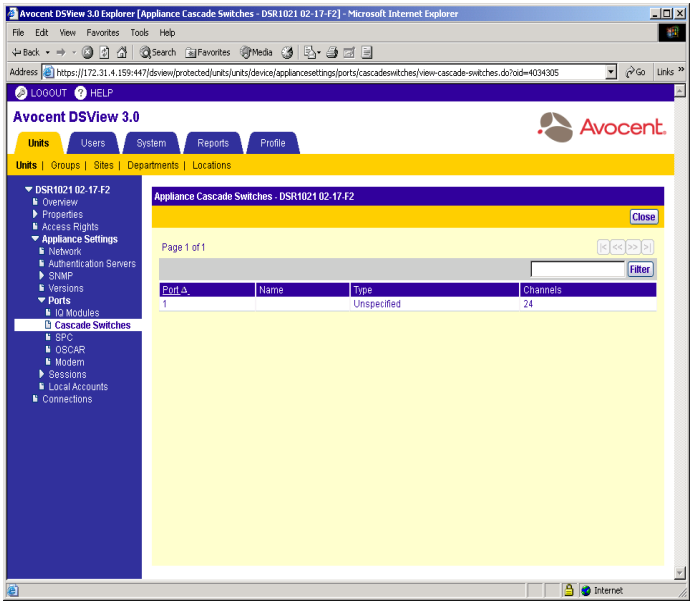


Figure 4.43: Appliance Cascade Switches Window

4. Click *Close* when you are finished. The Unit Views window will appear.

To modify local OSCAR authentication settings (DSR switches):

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath *Ports* click *OSCAR*. The Appliance OSCAR Settings window will appear.

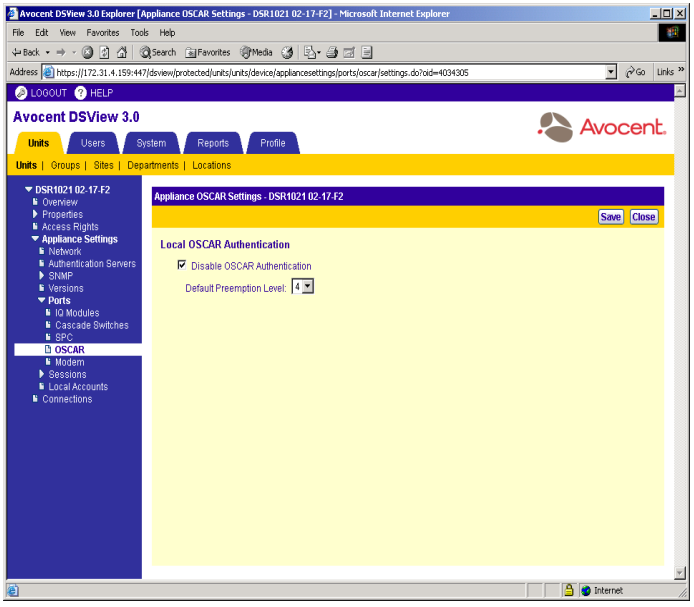


Figure 4.44: Appliance OSCAR Settings Window

4. Click *Disable OSCAR Authentication* to prevent the DSR switch from performing internal or external authentication.

NOTE: If the Disable OSCAR Authentication checkbox is not selected, the DSR switch will attempt external authentication using the list of authentication servers that reside in the switch. If the authentication fails, the DSR switch uses its internal user tables.

If you selected *Disable OSCAR Authentication*, continue to step 5.

If you did not select *Disable OSCAR Authentication*, go to step 6.

5. From the drop-down menu, specify a preemption level for the DSR switch (1-4).
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

To modify modem port settings (DSR switches):

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath Ports, click *Modems*. The Appliance Modem Settings window will appear including modem.

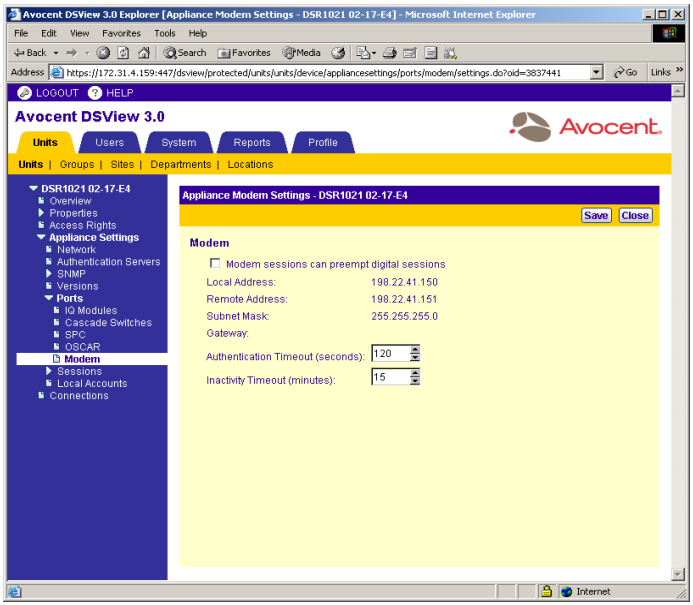


Figure 4.45: Appliance Modem Settings Window

4. Select *Modem sessions can preempt digital sessions* if you wish for a modem session to be able to disconnect an existing Ethernet connection to the DSR switch.
5. Type an authentication time-out for the modem in the range of 30-300 seconds.
6. Type an inactivity time-out for the modem connection in the range of 1-60 minutes.
7. Click *Save* to save your changes.
8. Click *Close*. The Unit Views window will appear.

Managing SPC device port settings

SPC devices and their outlets are managed using the SPC port appliance setting. If an SPC device is online, you may choose to view or customize settings or perform power control operations,

NOTE: When using an SPC device with a CPS appliance, you must specify that the CPS appliance serial port is configured as an SPC device port. See *Managing Serial port settings (CPS Appliances only)* on page 186 for more information.

To modify an SPC device, you must first click on the name of the managed appliance to which it is attached in the Unit Views window. All SPC devices associated with the DSR switch or CPS appliance will appear in the SPC Devices Attached to Appliance window.

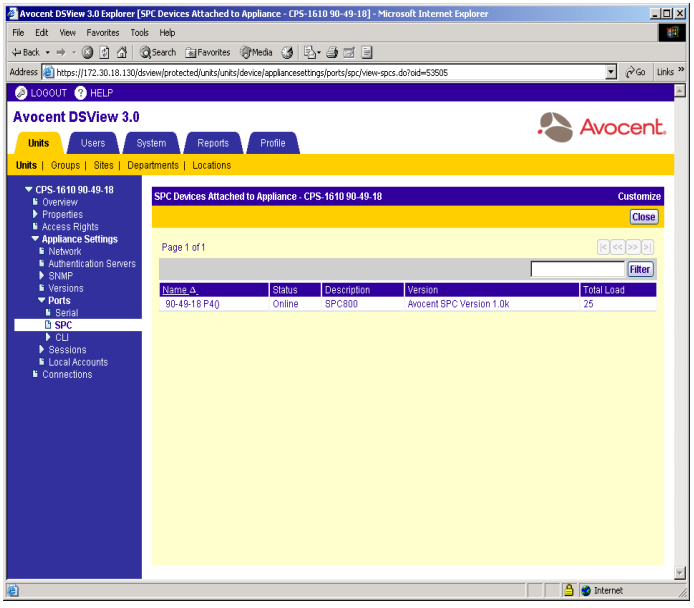


Figure 4.46: SPC Devices Attached to Appliance Window

Click on an SPC device to modify the device itself or individual SPC device outlets using the links in the side navigation bar. Settings for the entire SPC device may be modified by clicking *Settings* in the side navigation bar, which displays the SPC Settings window. Individual SPC device outlets may be modified by clicking *Sockets* in the side navigation bar, which displays the SPC Sockets window.

NOTE: Target devices attached to the DSR switch or CPS appliance are not rebooted.

Customizing the SPC Devices Attached to Appliance window

By default, the following fields display in the Devices Attached to Appliance window and may be removed using the *Customize* link:

- Description - Displays the model of SPC device. For example, SPC800 and so on.
- Version - Displays the version of the SPC device. For example, Avocent SPC Version 1.0k and so on.
- Total Load - Displays the total, in AMPs, currently in use by the SPC device.

The following fields are not displayed by default, but may be displayed using the Customize link:

- Poll rate - Displays how often a DSR switch or CPS appliance polls an SPC device.
- Ports Installed - Displays the total number of outlets on an SPC device.
- Total Load Max - Displays the maximum AMP load for the entire SPC device.
- Total Load Min - Displays the minimum AMP load for the entire SPC device.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

Customizing the SPC Sockets window

By default, the following fields display in the SPC Sockets window and may be removed using the *Customize* link:

- Power - Displays whether an SPC device outlet is powered up or powered down.
- Control - Displays the status of the relay (which control the physical power to the outlet) in comparison to the controller (which controls the relay). The relay and controller are typically in sync. If either the relay or the controller fails, one of the following will appear:
  - On
  - Off
  - Pend On
  - Pend Off
  - Reboot
  - Pend Reboot
- Module - Displays the current status of the SPC device outlet in relation to the status in the DSView software, which may be one of the following:
  - Normal - The state of the SPC device outlet matches the state detected in the DSView software.
  - On Fail - The DSView management software detects that the SPC device outlet is powered down, but it should be powered up.

  - Off Fail - The DSView software detects that the SPC device outlet is powered up, but the SPC device outlet is powered down.
  - No Response - The DSView software is not receiving a response from the SPC device outlet.
- Minimum On (Seconds) - Displays the minimum amount of time that the SPC device outlet will be powered up.
- Minimum Off (Seconds) - Displays the minimum amount of time that the SPC device outlet will be powered down.

Wake - Displays the wake-up state of the SPC device outlet. The wake-up state indicates the state that the port will go into when the SPC device is powered up during normal operation or when power is restored after an outage. When power is first supplied to the SPC device, all outlets are initially off. The ports are then sequenced on in 2-second increments. Outlets set to a wake-up state of Off will remain off. Outlets set to a wake-up state of On will be turned on (waken from its sleep state)

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To view or customize SPC device settings:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be automatically selected in the side navigation bar and the SPC Settings window will appear. The name of the SPC device will also appear beneath the DSR switch or CPS appliance name in the side navigation bar.

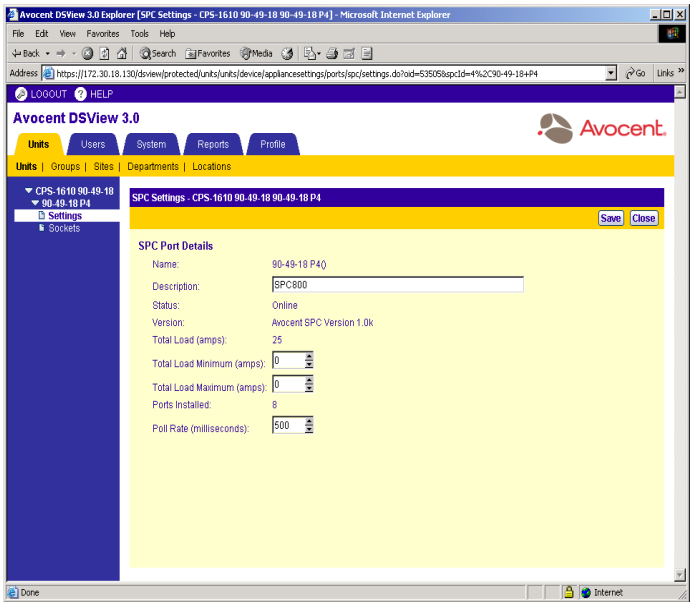


Figure 4.47: SPC Settings Window

5. Type a new description for the SPC device.
6. Type a new total minimum load for the SPC, in amps, or use the arrow buttons to specify a new value.
7. Type a new total maximum load for the SPC, in amps, or use the arrow buttons to specify a new value.
8. Type a polling rate, or use the arrow buttons to specify a new value.
9. Click *Save* to save your changes.
10. Click *Close*. The SPC Devices Attached to Appliances window will appear.
11. Click *Close*. The Unit Views window will appear.

To view or customize SPC device outlet settings:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be selected in the side navigation bar and the SPC Settings window will appear. The name of the outlet and SPC device will also appear beneath the DSR switch or CPS appliance name in the side navigation bar.
5. From the side navigation bar, click *Sockets*. The SPC Sockets window will appear.

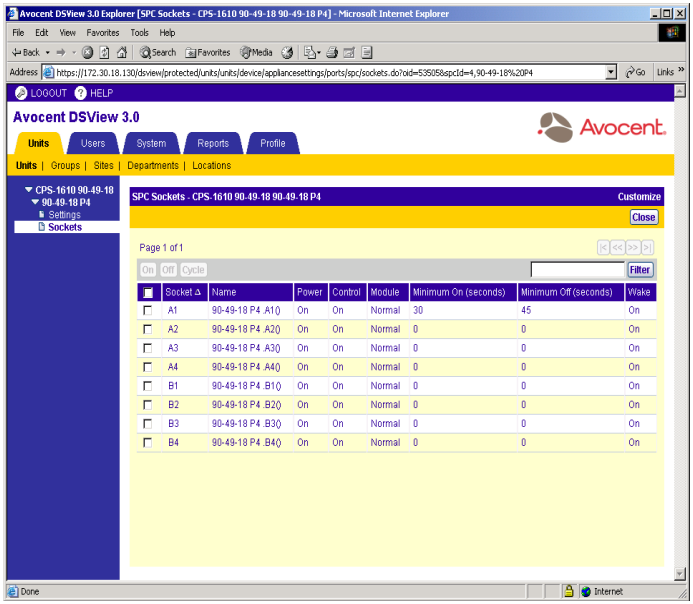


Figure 4.48: SPC Sockets Window

NOTE: When the IP address of a DSR switch or CPS appliance attached to an SPC device outlet has been modified, it may be necessary to reboot the DSR switch or CPS appliance. The DSView software will display a Reboot Required icon in the top left corner of the SPC Sockets window. Click the icon to reboot the DSR switch or CPS appliance.

6. Click on an SPC socket. The SPC Socket Settings window will appear and the name of the socket will appear under the SPC device in the side navigation bar.

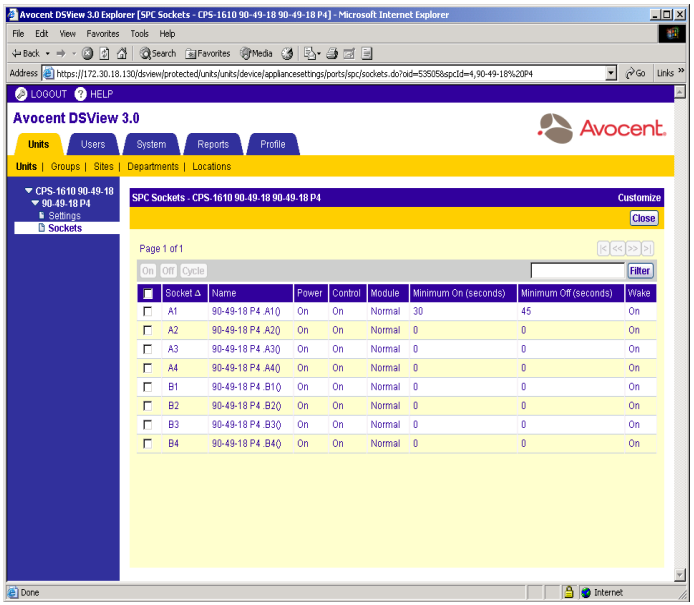


Figure 4.49: SPC Socket Settings Window

7. Type a new name for the socket.
8. From the drop-down menu, specify the minimum amount of time that the SPC socket should be powered up.
9. From the drop-down menu, specify a minimum amount of time that the SPC socket should be powered down.
10. From the drop-down menu, specify whether you wish to enable wake-up for the SPC device outlet.
11. Click *Save* to save your changes.
12. Click *Close*. The SPC Sockets window will appear.
13. Click *Close*. The SPC Devices Attached to Appliance window will appear.
14. Click *Close*. The Unit Views window will appear.

To power up, power down or cycle the power of an SPC device outlet:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath Ports, click *SPC*. The SPC Devices Attached to Appliance window will appear.
4. Click on the name of an SPC device. *Settings* will be selected in the side navigation bar and the SPC Settings window will appear. The name of the outlet and SPC device will also appear beneath the DSR switch or CPS appliance name in the side navigation bar.

5. Click *Sockets*. The SPC Sockets window will appear.
6. Click the checkbox to the left of the SPC device outlets you wish to power up, power down or cycle power.

   -or-

   Click the checkbox to the left of Socket at the top of the list to select all SPC device outlets listed in the window for powering up, powering down or cycling power.
7. Click *On* to power up the selected SPC device outlets. The Power column will display On.

   -or-

   Click *Off* to power down the selected SPC device outlets. The Power column will display Off.

   -or-

   Click *Cycle* to cycle the power (power down and then power up) of the selected SPC device outlets. The Power columns will display Off and On and the Control columns will display Cycling while power is cycling. When power cycling is completed, the Power and Cycling columns will display On.

Managing Serial port settings (CPS Appliances only)

Serial port settings must be defined for CPS devices so that the appliance may connect to an SPC device or a console. When you click *Serial* in the side navigation bar, the Appliance Serial Ports window will appear. You may click on a serial port in this window to access the settings.

Customizing the Appliance Serial Ports window

By default, the following fields display in the Appliance Serial Ports window and may be removed using the *Customize* link:

The following appear in the Properties - Serial Ports window:

- Port - Displays the serial port number
- Name - Displays the name of the serial port
- Type - Displays the type of port (CLI, SPC or Standard)
- Baud - Displays the baud rate of the serial port
- Data Bit - Describes the data bit rate of the serial port

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the *Customize* link.

To view or customize the general properties for a CPS appliance serial port:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*.
3. From beneath Ports, click *Serial*. The Appliance Serial Ports window will appear.

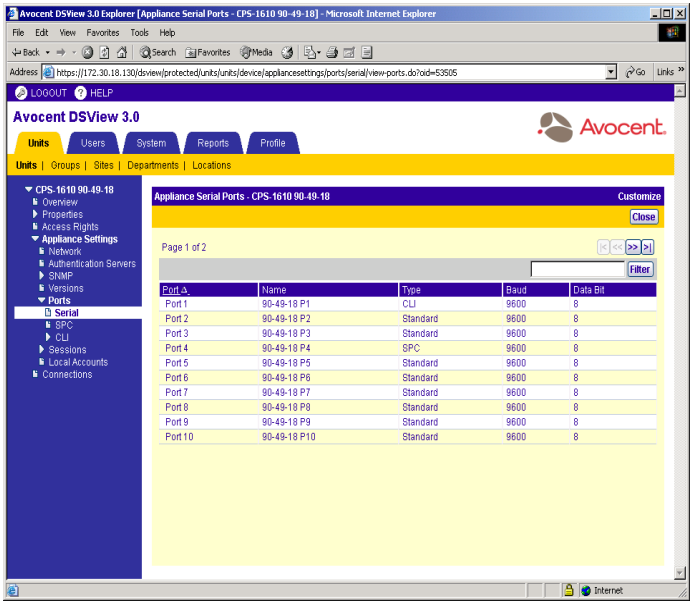


Figure 4.50: Appliance Serial Ports Window

4. Click on the name of a serial port. The Appliance Serial Port General Settings will appear and the name of the port will appear under the CPS appliance in the side navigation bar.

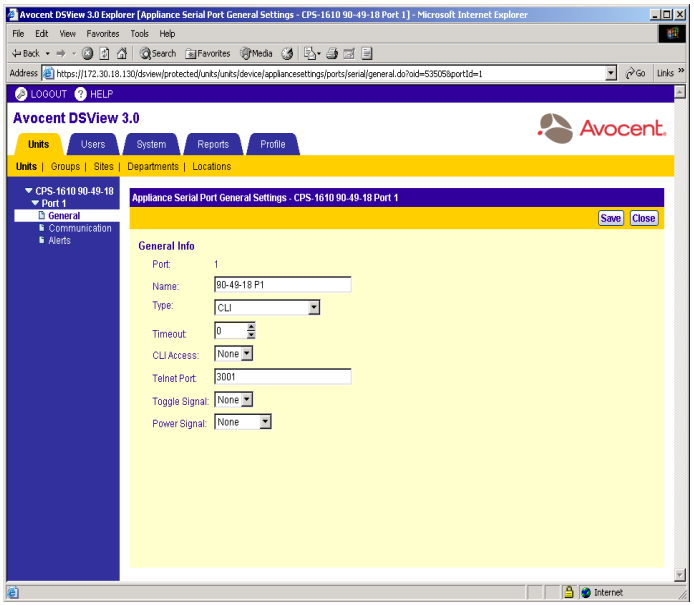


Figure 4.51: Appliance Serial Port General Settings Window

5. Type a new name for the serial port.
6. Using the drop-down menu, specify the type of port:
    - Standard Command Line Interface (CLI) - Select this port type if you wish to define the port as a Serial connection for a local terminal.

NOTE: Only one port may be defined as a CLI port. If a second port is defined as a CLI port, the previously defined CLI port will be changed to a Standard port.

    - SPC - Select this port type if you wish to connect an SPC device to the port.
    - Standard - Select this port type if you wish to access a Serial device using SSH with a CPS appliance.
7. Using the arrow buttons, specify a time-out.
8. Using the drop-down menu, specify a CLI access character that will be used to access CLI mode on a serial device. The (^) character represents the **Ctrl** key. For example, specifying ^D means that pressing **Ctrl-D** will enter CLI mode.
9. Type a Telnet port that will be used to access the serial port. The default Telnet port is 3001.

10. Using the drop-down menu, specify whether or not the port should use a DTR signal. If set to DTR, the CPS appliance will report target devices as ON if the signal given matches the state given. Otherwise, the CPS appliance will report the target device power as OFF.
11. Using the drop-down menu, specify a power signal type that will be used for power status monitoring of the CPS appliance port:
    - CTS High
    - CTS Low
    - DCD High
    - DCD Low
    - DSR High
    - DSR Low
    - None
12. Click *Save* to save your changes.
13. Click *Close*. The Appliances Serial Ports window will appear.
14. Click *Close*. The Unit Views window will appear.

To customize the communication properties for a serial port connected to a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. Click on the name of a serial port. Appliance Serial Ports General Settings will appear and the name of the port will appear under the CPS appliance in the side navigation bar.
4. From the side navigation bar, click *Communication*. The Appliance Serial Port Communications Settings window will appear.

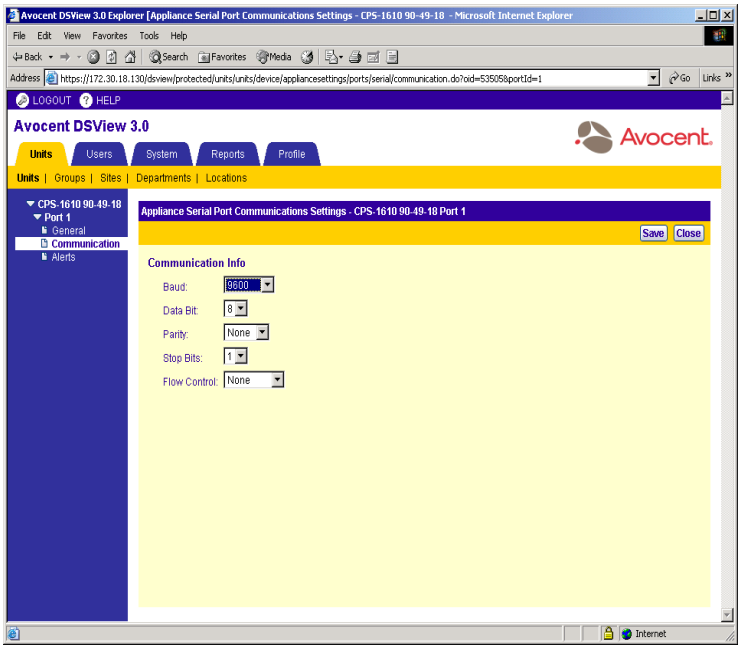


Figure 4.52: Appliance Serial Ports Communications Settings Window

5. From the drop-down menu, select a baud rate for the serial port:
   - 50
   - 75
   - 100
   - 110
   - 150
   - 200
   - 300
   - 600
   - 1200
   - 1800
   - 2400
   - 4800
   - 7200
   - 9600
   - 14400

- 19200
- 28800
- 38400
- 57600
- 76800
- 115200

6. From the drop-down menu, select the number of data bits per character (7 or 8) for the serial port.
7. From the drop-down menu, select a parity rate for the serial port:
   - Even - Specifies even parity.
   - Mark - Specifies mark parity.
   - None - Specifies no parity.
   - Odd - Specifies odd parity.
   - Space - Specifies space parity.
8. From the drop-down menu, select a the number of stop bits per character (1 or 2) for the serial port.
9. From the drop-down menu, select a flow control for the serial port.
   - DTR/DCD (Data Terminal Ready/Data Carrier Detect) - Use this option if you wish to use DTR/DCD hardware flow control.
   - None - Select this option if you wish to use no flow control.
   - RTS/CTS (Request to Send/Clear to Send) - Use this option if you wish to use RTS/CTS hardware flow control.
   - XOn/XOff - Use this option if you wish to use XON/XOFF software flow control.
10. Click *Save* to save your changes.
11. Click *Close*. The Appliances Serial Ports window will appear.
12. Click *Close*. The Unit Views window will appear.

To customize the CLI settings for a CPS appliance:

NOTE: Only one port may be defined as a CLI port on a CPS appliance. If a second port is defined as a CLI port, the previously defined CLI port will be changed to a Standard port. For example, if Port 1 was defined as a CLI port and you now defined Port 2 as a CLI port, Port 1 will revert back to a Standard port and Port 2 will be the CLI port.

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. From beneath Ports, click *CLI*. *Settings* will be selected in the side navigation bar and the Appliance CLI Port Settings window will appear.

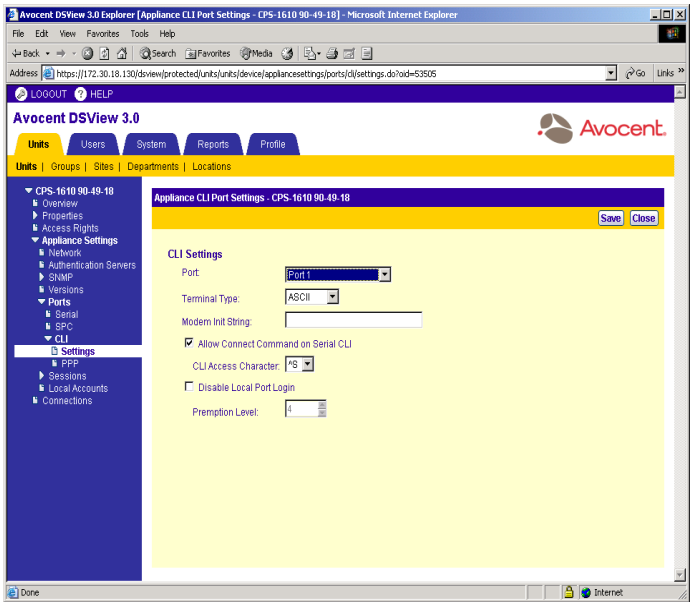


Figure 4.53: Appliance CLI Port Settings Window

4. Using the drop-down menu, specify the CPS appliance port you wish to use for CLI connections to a Serial device. You may choose Unassigned if you do not wish to assign a specific port as the CLI port.
5. Using the drop-down menu, specify one of the following terminal types to use for a CLI connection:
   - ASCII
   - IBM 3151
   - IBM 5250
   - None
   - VT-100
   - VT-102
   - VT-220
   - VT-320
   - VT-52
   - Wyse 50
6. Type a modem initialization string that will be used by the CPS appliance for dial-in serial CLI access to an attached serial device. The default value is ATE0V1 SO=1.

NOTE: If you wish to access a serial device using a modem connection, you must specify PPP settings.

7. Click *Allow Connect Command on Serial CLI* if you wish to allow DSView users to connect to another CPS appliance port from the CLI (using the CONNECT command) from an existing CLI connection to the CPS appliance CLI port.
8. Using the drop-down menu, specify a CLI access character that will be used to access CLI mode on a serial device. The (^) character represents the **Ctrl** key. For example, specifying ^D means that pressing **Ctrl-D** will enter CLI mode.
9. Click *Disable Local Port Login* if you do not wish to require local users to log in to the local port. Local users will be recognized in the DSView software as having their preemption level set there. If this option is not selected, the local user must log in to the local port and will have a preemption level assigned to them from the DSView software or from the logged in local account.
10. Click *Save* to save your changes.
11. Click *Close*. The Unit Views window will appear.

To customize the CLI point to point protocol (PPP) settings for a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Ports*. The Appliance Serial Ports window will appear.
3. From beneath Ports, click *CLI*. *Settings* will be selected in the side navigation bar and the Appliance CLI Port Settings window will appear.
4. From the side navigation bar, click *PPP*. The Appliance CLI PPP Settings window will appear.

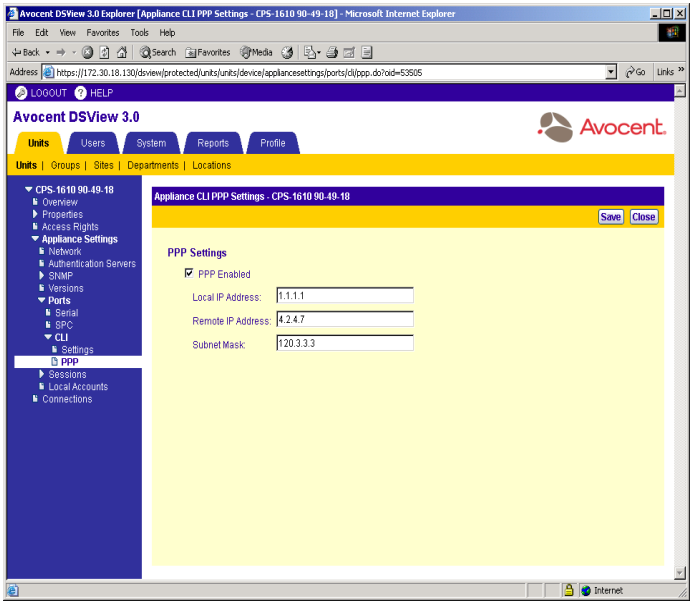


Figure 4.54: Appliance CLI PPP Settings Window

5. Click *PPP enabled* to enable a modem connection to a serial device using the CPS appliance serial CLI port.

   -or-

   Do not select the checkbox if you wish to use the CLI port with the local terminal.
6. Type the IP address, in standard dot notation (xx.xx.xx.xx), to be used with a PPP session to the CPS appliance in the Local IP Address field.
7. Type the IP address, in standard dot notation (xx.xx.xx.xx), to be assigned to the PC dialing into the PPP connection on the CPS appliance in the Remote IP Address field.
8. Type a subnet mask, in standard dot notation (xx.xx.xx.xx), on which both the local IP address and remote IP address must reside.
9. Click *Save* to save your changes.
10. Click *Close*. The Unit Views window will appear.

Viewing and modifying session settings on DSR switches or CPS appliances

The following DSView session settings may be modified on DSR switches or CPS appliances:

- Active - Allows a DSView user to disconnect a DSR switch or CPS appliance session.
- Settings - Allows settings to be specified for a DSView session, including history, inactivity time-out and SSH settings for CPS appliances and inactivity time-out and encryption level settings for DSR switches.

The following DSView session setting may be modified on DSR switches only:

- Exit Macros - Allows a DSView Administrator to create macros that may be used by and reside on a DSR switch.

Customizing the Appliance Sessions window

By default, the following fields display in the Appliance Sessions window for DSR switches and CPS appliances and may be removed using the *Customize* link:

- Duration - The length of the DSView session.
- User - The DSView user who initiated the DSView session.

The following field are not displayed by default for DSR switches, but may be displayed using the *Customize* link:

- Channel - Displays the channel being used by the DSR switch to connect to the DSView session.
- Client - Displays the proxy address if the DSView proxy is enabled.
- IQ Module - Displays the electronic ID (EID) of the target device DSRIQ or AVRIQ module.

NOTE: The IQ Module column may also display the EID of an AVRIQ if an AutoView 2000 switch cascaded from a DSR switch in a non-proxied connection.

- Mode - The mode of the session, which may change during the session. Available modes are:

  - Normal - An interactive session that may be shared with other DSView users. When two or more DSView users are sharing the session, the mode will change to Sharing Interactive.
  - Exclusive - A private session that does not allow sharing by other DSView users.
  - Sharing Interactive - A DSView session that is being shared by two or more DSView users. Interactive DSView users have full control of the video, mouse and keyboard. Passive users may also share the DSView session, but may only view the DSView session and have a state of Sharing Passive.

    A DSView user may view the usernames of other DSView users sharing the DSView session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or the DSView user is a member of the built-in DSView Administrators user group. DSView users viewing the session in Stealth mode will not be listed. If other DSView users disconnect from the session and a single DSView user remains connected, the mode will change to Normal.
  - Sharing Passive - A DSView session that is being shared by two or more DSView users. Passive users may only view the DSView session. Interactive DSView users may also share the DSView session, but have full control of the video, mouse and keyboard and have a state of Sharing Interactive.

    A DSView user may view the usernames of other DSView users sharing the DSView session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or the DSView user is a member of the built-in DSView Administrators user group. DSView users viewing the session in Stealth mode will not be listed. If other DSView users disconnect from the session and a single DSView user remains connected, the mode will change to Normal.
  - Scan - A temporary non-exclusive DSView session that displays connected target devices in a thumbnail viewer.
- Owner - The username of the logged in DSView user that owns the session connected to the DSR switch port.
- Port - Displays the DSR switch port number connected to the session.
- Preemption Level - Displays the effective user preemption level for the DSView user that is connected to the DSR switch port. See *User Preemption Levels* on page 21 for more information on preemption levels.

The following field are not displayed by default for CPS appliances, but may be displayed using the *Customize* link:

- Client - Displays the IP address of the DSView Client computer connected to the CPS appliance in a non-proxied connection. The IP address of the DSView proxy will display in this column if the DSView Client is connected to the CPS appliance using a proxy connection.

- Interface - Displays the interface to which to the session is connected, which is either a serial port or the network CLI.
- Preemption Level - Displays the effective user preemption level for the DSView user that is connected to the CPS appliance port. See *User Preemption Levels* on page 21 for more information on preemption levels.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To view an active session or session information on a DSR switch or CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.

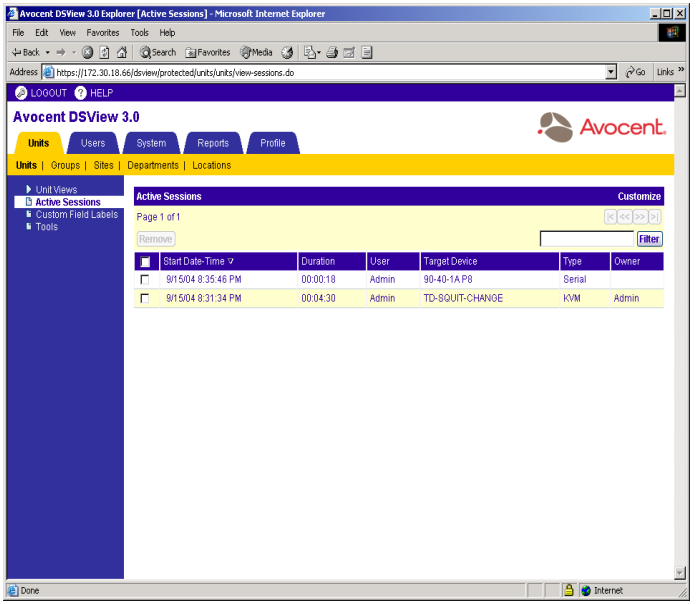


Figure 4.55: Appliance Sessions Window

3. To view information about a specific session, click on the name of the KVM or serial session. The Active Session Information window will appear including information about the active KVM or serial session.

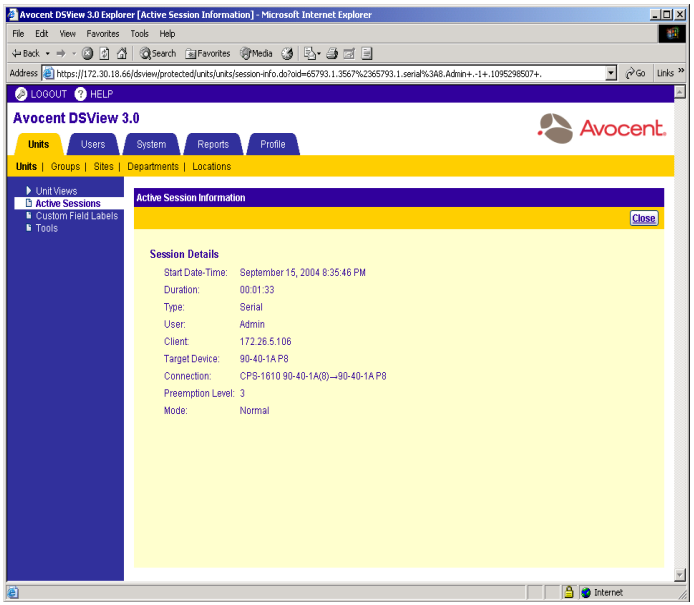


Figure 4.56: Active Session Information Window

4. Click *Close*. The Appliance Sessions window will appear.
5. Click *Close*. The Unit Views window will appear.

To disconnect an active DSView session on a DSR switch or CPS appliance:

NOTE: Any DSView user that has access to the DSR switch or CPS appliance and has a higher preemption level than the active DSView session may disconnect the session.

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Click the checkbox to the left of the DSView sessions you wish to disconnect.

   -or-

   Click the checkbox to the left of Server at the top of the list to select all DSView sessions listed in the window for disconnection.
4. Click *Disconnect*. A confirmation dialog box will appear.
5. Click *OK* to disconnect the DSView sessions.

   -or-

   Click *Cancel* to cancel the action.

To view and modify the DSView session settings on a CPS appliance:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. From beneath Sessions, click *Settings*. The Appliance Settings - Sessions - Settings window will appear including SSH settings for the CPS appliance.

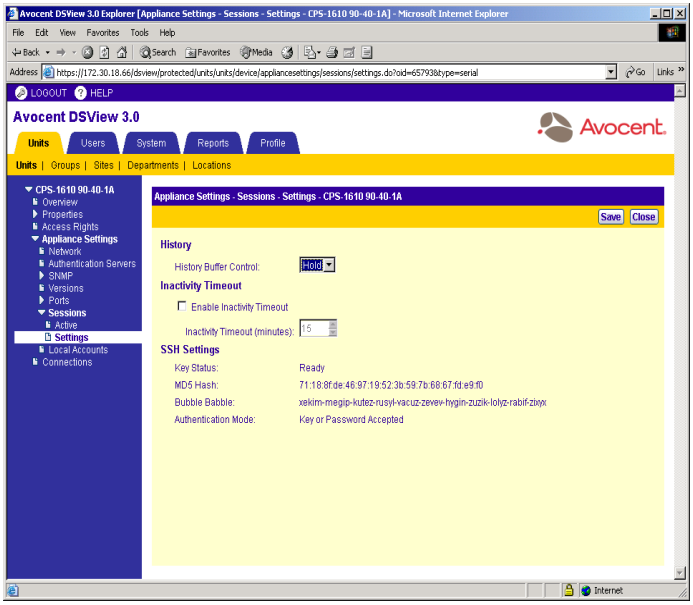


Figure 4.57: Appliance Settings - Sessions - Settings Window (CPS Appliance)

4. Using the drop-down menu, specify the how the most recent 64K bytes of online and offline data (history) from a serial port will be controlled:
   - Auto - Select this option to display the history buffer content to a Telnet window.
   - Hold - Select this option to save the buffer contents. To view the contents, you must access the CPS appliance CLI and use the Port History command to view the port's history buffer content.
5. Click *Enable activity timeout* and use the arrows to specify a time-out value (from 1-90 minutes) that the CPS appliance will wait until the DSView user must log back in to the CPS appliance.
6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

To modify the DSView session settings on a DSR switch:

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. Click *Settings* in the side navigation bar. The Appliance Settings - Sessions - Settings window will appear.

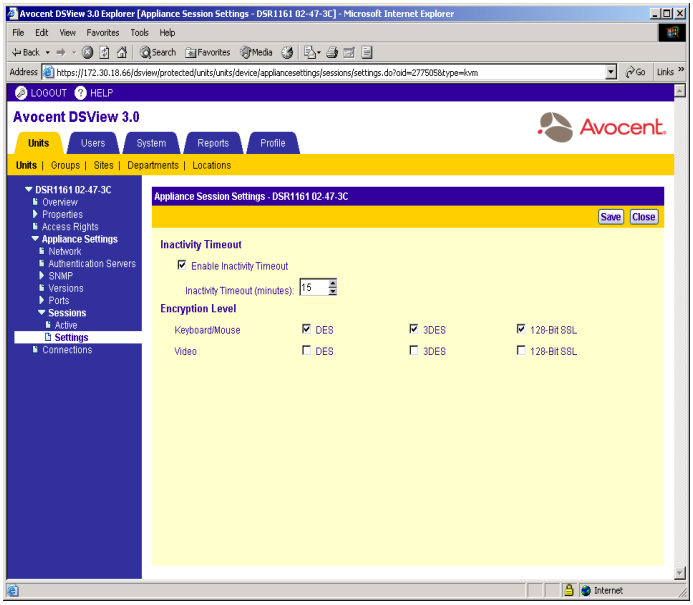


Figure 4.58: Appliance Settings - Sessions - Settings Window (DSR Switch)

4. Click *Enable activity timeout* and use the arrows to specify a time-out value (from 1-90 minutes) that the DSR switch will wait until the DSView user must log back in to the DSR switch.
5. Specify an encryption level for the keyboard, mouse and video:
   - DES - SSL Single DES Encryption
   - 3DES - SSL Triple DES Encryption
   - 128-Bit SSL - 128-bit encryption which used an ARCFOUR (RC4®) SSL cipher.

NOTE: At least one encryption level must be specified for the keyboard and mouse.

NOTE: When you specify more than one SSL encryption type, the DSR switch negotiates the strongest algorithm that is supported by both sides. The strongest algorithm is 128, followed by 3DES and DES.

6. Click *Save* to save your changes.
7. Click *Close*. The Unit Views window will appear.

Defining exit macros

Since DSView Clients are running remotely on PCs, certain commands must be sent to the controlled target device via keyboard macros. For example, pressing **Ctrl+Alt+Delete** on your keyboard would reset the PC running the DSView Client rather than resetting the target device. To reset the target device, a macro is needed. The DSView software comes with numerous sequences pre-configured for ease of operation.

Three kind of macros are available in the DSView software. Two of these, Personal Macros and Global Macros, are created using the Video Viewer window. See *Using the Video Viewer Window* on page 241 for more information on Personal and Global Macros.

The third kind of macro is an Exit Macro. Exit Macros may be created and maintained by any DSView users with Configure Appliance Settings specified in the Unit Access Rights window. Exit Macros reside on the DSR switch. You may create different groups of exit macros for each DSR switch in your system.

Exit Macros allow DSView Administrators to create a macro that returns a target device to a known state. For example, if a DSView user is connected to a target device using a DSR switch and the DSView user closes the Video Viewer session, an exit macro may be executed that resets the target device to a known state by logging the DSView user out of the target device session.

Exit Macros are created and maintained by clicking on a DSR switch in a Unit Views window and selecting <*Name*> - *Appliance Settings* - *Sessions* - *Exit Macros* from the side navigation bar. They are stored on the DSR switch and executed whenever a DSView session is terminated.

To define exit macros (DSR switches only):

1. From the side navigation bar, click *Appliance Settings*.
2. From beneath Appliance Settings, click *Sessions*. *Active* will be selected in the side navigation bar and the Appliance Sessions window will appear.
3. From beneath Sessions, click *Exit Macros* in the side navigation bar. The Appliance Exit Macros window will appear.

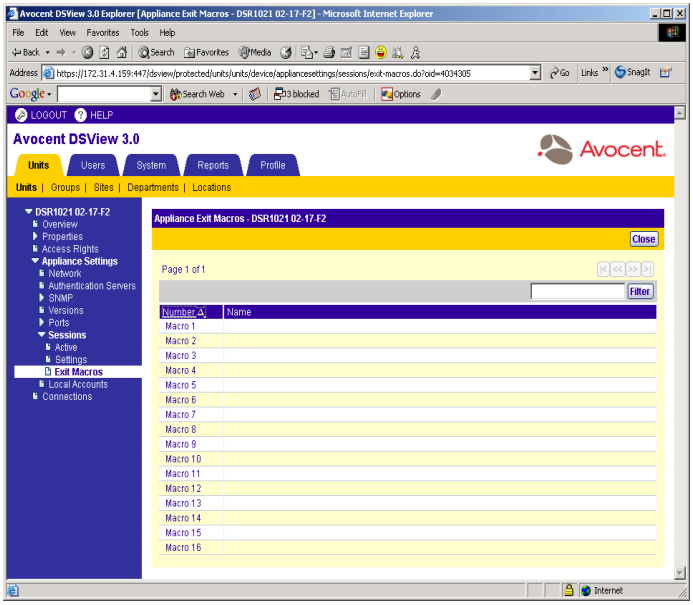


Figure 4.59: Appliance Exit Macros Window

4. Click the number of a macro. The Appliance Exit Macro Settings window will appear.

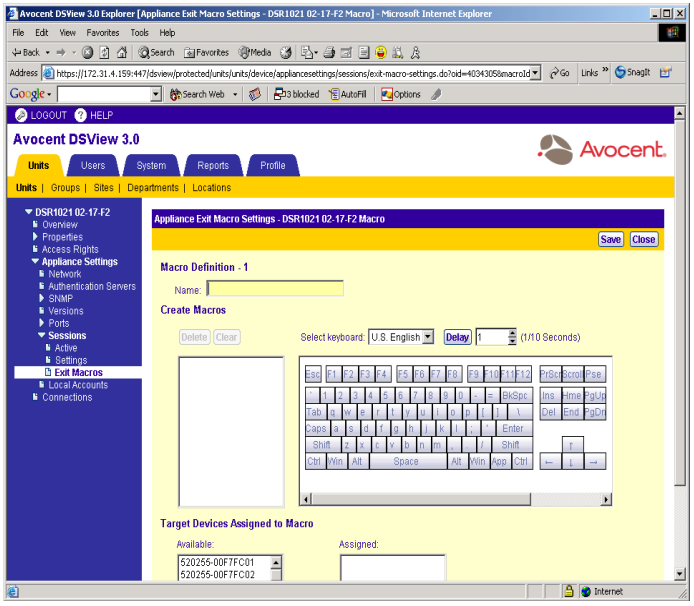


Figure 4.60: Appliance Exit Macro Settings Window

5. Enter a unique description for the Global Macro in the Name field.
6. From the Select Keyboard drop-down menu, select the country configuration of your keyboard. The keyboard graphic in the window will update to reflect your selection.
7. Click on the buttons in the keyboard graphic you wish to use to create the macro. As a button is clicked, it will appear in the list box to the left of the keyboard graphic.

   You may type or use the arrow buttons to specify a delay between buttons you selected from the keyboard graphic. First, click the button in the list box after which you wish to place a delay. Next, click *Delay* to insert the delay in the list box.
8. Specify the attached target devices on which you wish to use the macro:
   a. Select the target device in the Available list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target device names.
   b. Click *Add*. The target devices will be moved to the Assigned list.

NOTE: To remove selected target devices, select the target device you wish to remove from the Assigned list (multiple target devices may be selected by pressing **Ctrl** while clicking on the target device names) and clicking *Remove*. The target devices will be moved to the Available list.

9. Click *Save* to save your changes.
10. Click *Close*. Unit Views window will appear.

Example: To create a macro where the Ctrl key is held while F1-F2-F3 are typed:

1. Type **Control F1-F2-F3** in the Name field. This is the name of the macro that will appear in the Appliance Exit Macros window.

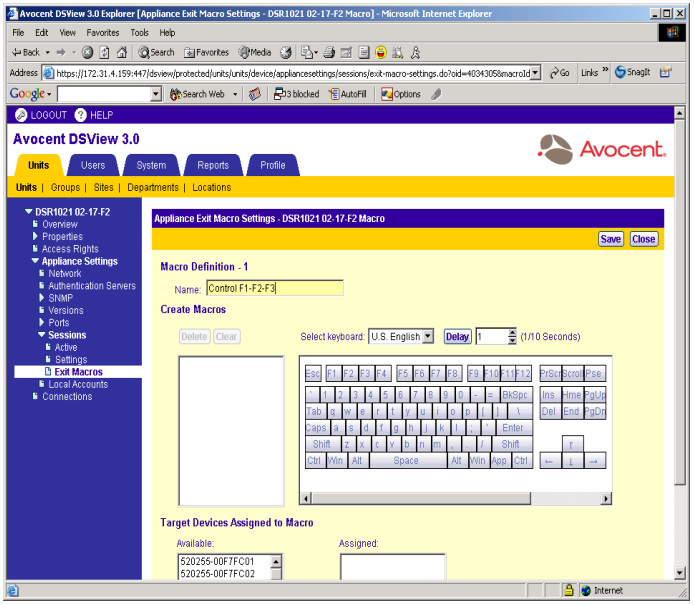


Figure 4.61: Entering the Macro Name

2. Click on the left or right *Ctrl* key in the keyboard graphic in the window. Ctrl Left - PRESS or Ctrl Right - PRESS will appear in the list box to the left of the keyboard graphic.
3. Click *F1*, *F2* and *F3* in the keyboard graphic in the window. The keystrokes will appear in the list box to the left of the keyboard graphic.
4. Click the same left or right *Ctrl* key in the graphic that you pressed in step 2. Ctrl Left - RELEASE or Ctrl Right - RELEASE will appear in the list box to the left of the keyboard graphic.

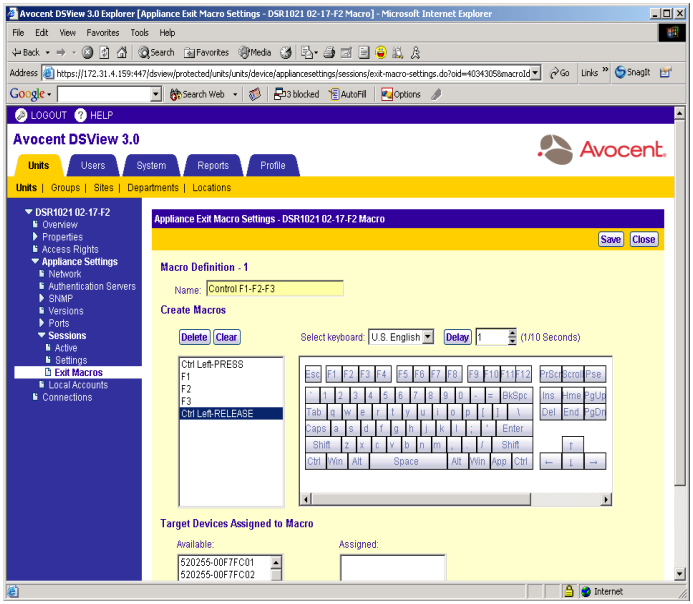


Figure 4.62: The Completed Macro

5. Select the target devices to which you wish to assign the macro in the Target Devices Assigned to Macro area.
6. Click *Save* to save your changes.
7. Click *Close*. The Appliance Exit Macros window will appear.

Modifying local account settings on DSR switches and CPS appliances

Clicking a DSR switch or CPS appliance and using the Appliance Settings Local Accounts link allows you to add, remove, or modify local user accounts on a DSR switch or CPS appliance using the Appliance Local User Accounts window.

Local accounts allow a DSView user to log in to a DSR switch or CPS appliance locally if the DSR switch or CPS appliance has a DSView Server configured as an authentication server. You may assign a User Administrators, Appliance Administrators or Users level to a local user. See *User Groups* on page 19 for information on privileges.

To display the Appliance Local User Accounts window:

1. From beneath the Appliance Settings in the side navigation bar, click *Local Accounts*. The Appliance Local User Accounts window will appear.

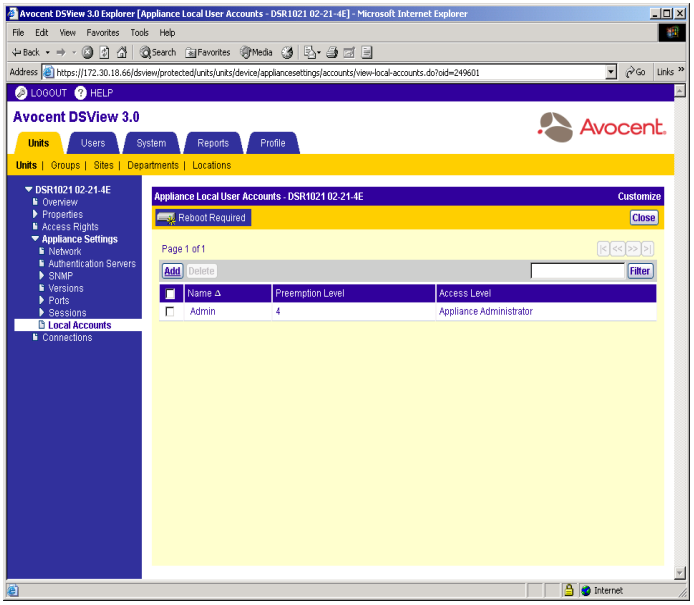


Figure 4.63: Appliance Local User Accounts Window

Customizing the Appliance Local User Accounts window

By default, the following fields display in the Appliance Local User Accounts window and may be removed using the Customize link:

- Preemption Level - The preemption level of the local user account.
- Access Level - The access level of the local user. See *User Groups* on page 19 for information on access levels.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To add a local user account for a DSR switch or CPS appliance:

NOTE: A DSView user must have Configure Local Accounts rights specified in the Unit Access Rights window to add local user accounts.

1. From the Appliance Local User Accounts window, click *Add*. The Welcome page of the Add Local User Account Wizard will appear.

   Click *Next*.

2. The Type in Local User Credentials window will appear.

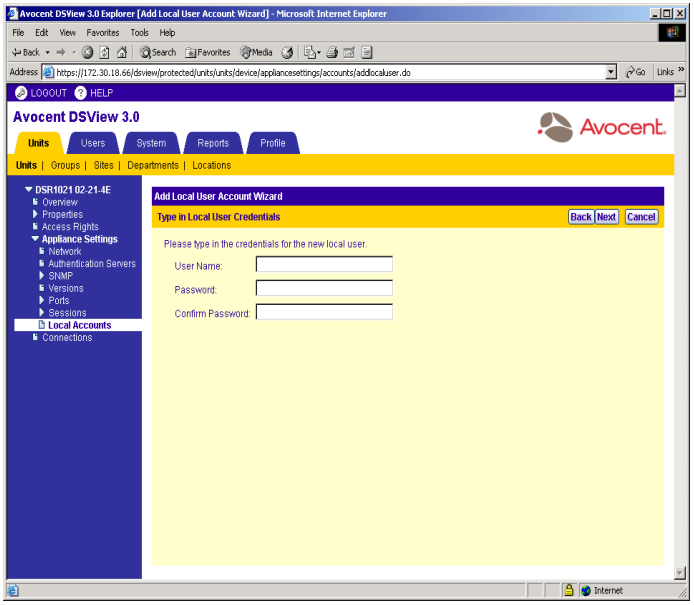


Figure 4.64: Add Local User Account Wizard - Type in Local User Credentials Window

a. Type the name of the local user account.
b. Type a password for the local user account.
c. Confirm the password for the local user account.
d. Click *Next*.

3. The Select Preemption Level window will appear.

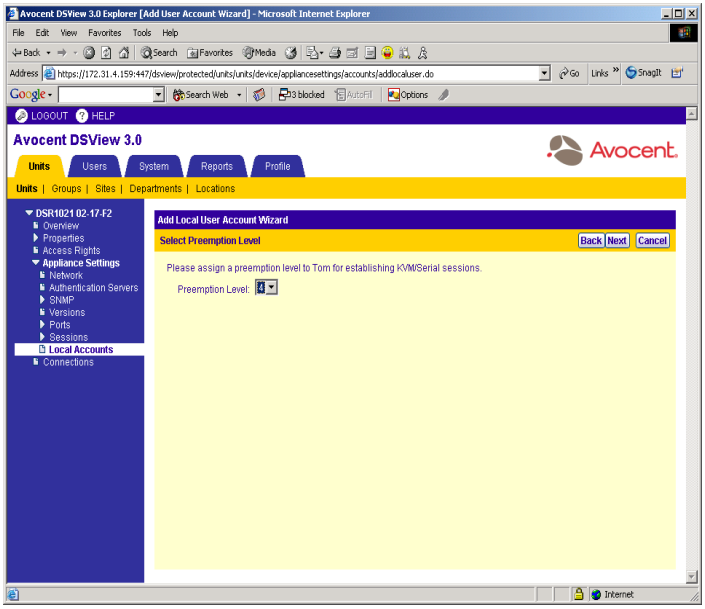


Figure 4.65: Add Local User Account Wizard - Select Preemption Level Window

a. Select a preemption level (1-4) for the local user. See *User Preemption Levels* on page 21 for information on preemption levels.

b. Click *Next*.

4. The Select Access Level window will appear.

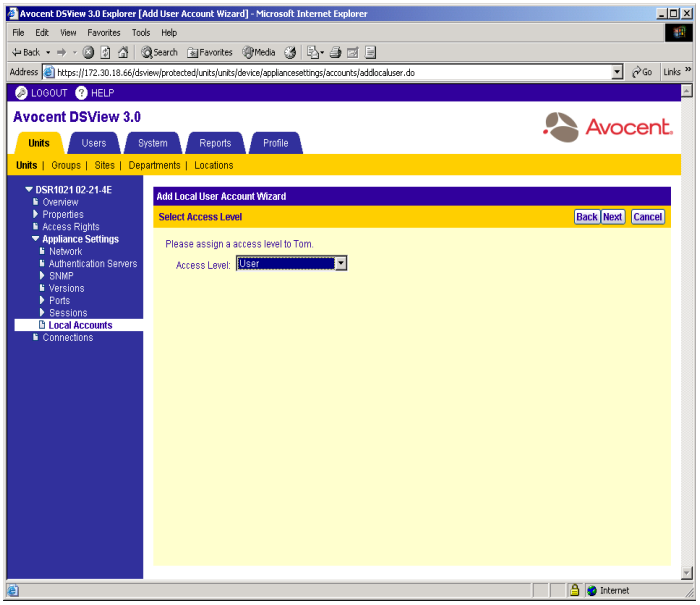


Figure 4.66: Add Local User Account Wizard - Select Access Level Window

a. Use the drop-down menu to select an access level:
   - Appliance Administrator
   - User
   - User Administrator

b. Click *Next*.

If you selected User, continue to step 5.

If you selected Appliance Administrator or User Administrator, go to step 7.

5. The Assign Target Devices window will appear.

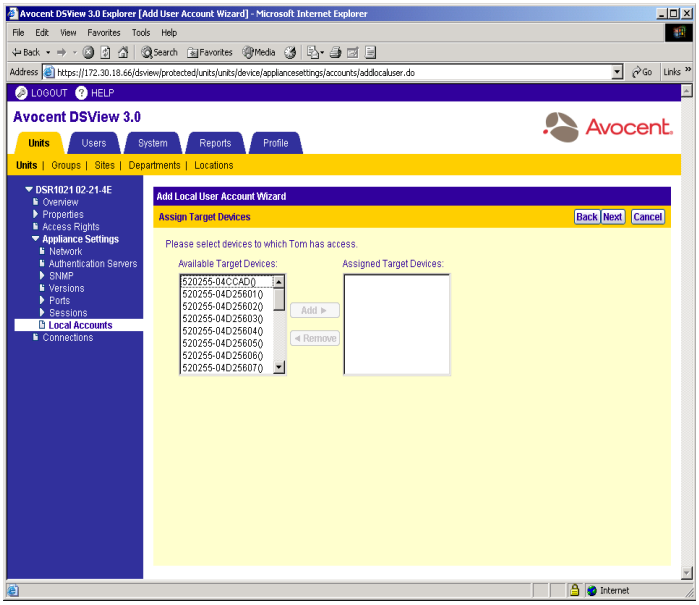


Figure 4.67: Add Local User Account Wizard - Assign Target Devices Window

6. Select the target devices you wish to allow the local user to access:

   To allow a DSView user access rights to a target device:

   - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target devices.
   - Click *Add*. The target devices will be moved to the Assigned Target Devices list.

   To remove the target device access rights of a local user:

   - Select the name of the target device you wish to remove from the Assigned Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the column names.
   - Click *Remove*. The target devices will be moved to the Available list.

7. Click *Next*. The Completed Successful window will appear.
8. Click *Finish*. The Appliance Local User Accounts window will appear including the newly-added local user.

To delete a local user account on a DSR switch or CPS appliance:

NOTE: A DSView user must have Configure Local Accounts rights specified in the Unit Access Rights window to delete local user accounts.

1. From the Appliance Local User Accounts window, click the checkbox to the left of the local users you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all local user accounts listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the local user accounts.

   -or-

   Click *Cancel* to cancel the action.

To modify the settings of a local user account on a DSR switch or CPS appliance:

NOTE: A DSView user must have Configure Local Accounts rights specified in the Unit Access Rights window to modify local user account settings.

1. From the Appliance Local User Accounts window, click on the name of a local user account. *Settings* is selected in the side navigation bar and the name of the local user account appears below the name of the DSR switch. The Appliance Local User Account Settings window will appear.

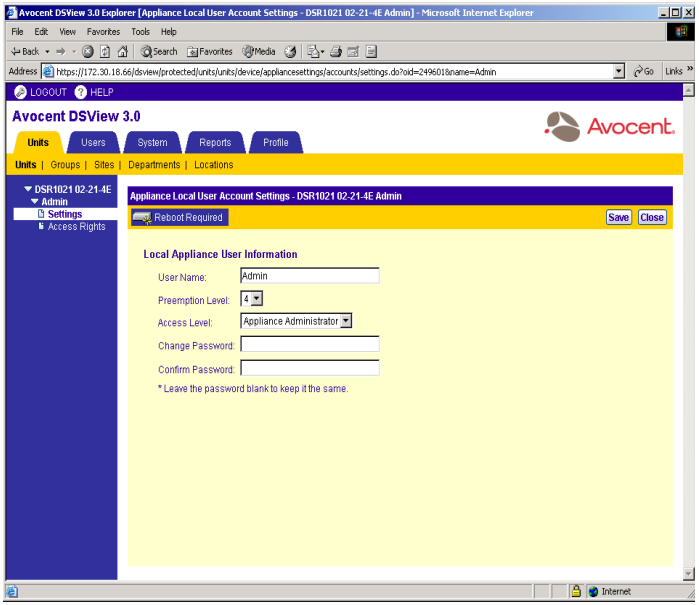

Avocent DSView 3.0 Explorer [Appliance Local User Account Settings - DSR1021 02-21-4E Admin] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/units/units/device/appliancesettings/accounts/settings.do?oid=249601&name=Admin
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-21-4E
Admin
Settings
Access Rights
Appliance Local User Account Settings - DSR1021 02-21-4E Admin
Reboot Required
Save Close
Local Appliance User Information
User Name: Admin
Preemption Level: 4
Access Level: Appliance Administrator
Change Password:
Confirm Password:
* Leave the password blank to keep it the same.
Internet

Figure 4.68: Appliance Local User Account Settings Window

2. Type a new name for the local user.
3. Use the drop-down menu to select a different preemption level (1-4) for the local user. See *User Preemption Levels* on page 21 for information on preemption levels.
4. If available, use the drop-down menu to select a different access level:
   - User Administrator
   - Appliance Administrator
   - User
5. Type a new password for the local account and then confirm the password.
6. Click *Save* to save your changes.
7. Click *Close*. The Appliances window will appear including your changes.

To assign target device access rights to a local account on a local DSR switch or CPS appliance:

NOTE: A DSView user must have Configure Local Accounts rights specified in the Unit Access Rights window to assign target device access rights to a local account on a DSR switch or CPS appliance.

1. From the Appliance Local User Accounts window, click on the name of a local account. *Settings* is selected in the side navigation bar and the name of the local account appears below the name of the DSR switch. The Appliance Local User Account Settings window will appear.

NOTE: If the local user has Configure Local Accounts rights, a message will appear informing the DSView user that they may access all target devices in the system.

From the side navigation bar, click *Access Rights*. The Appliance Local User Account Access Rights window will appear.

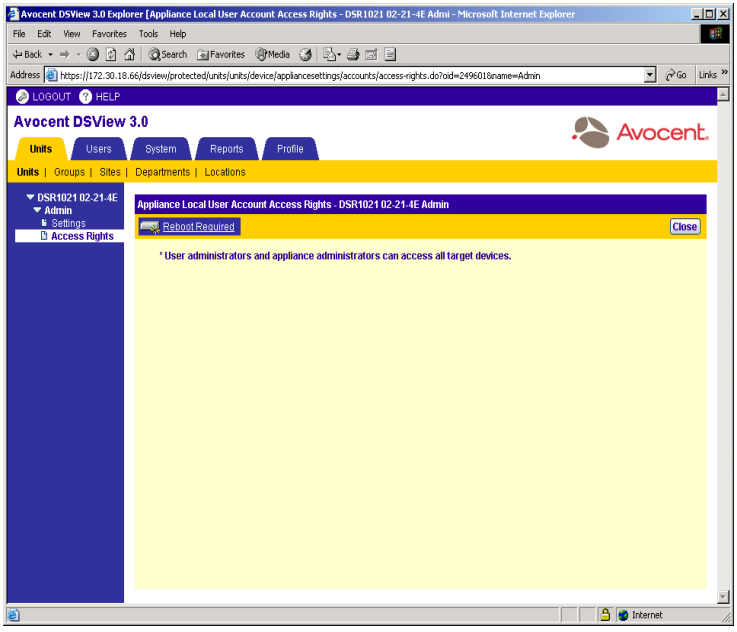

Avocent DSView 3.0 Explorer [Appliance Local User Account Access Rights - DSR1021 02-21-4E Admi - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/units/units/device/appliancesettings/accounts/access-rights.do?oid=249601&name=Admin
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-21-4E
Admin
Settings
Access Rights
Appliance Local User Account Access Rights - DSR1021 02-21-4E Admin
Reboot Required
Close
* User administrators and appliance administrators can access all target devices.
Internet

Figure 4.69: Appliance Local User Account Access Rights Window

2. Select the target devices you wish to allow the local user accounts to access:

   To allow a local account to have access rights to a target device:

   - Select the name of the target device in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the target devices.
   - Click *Add*. The target devices will be moved to the Assigned Target Devices list.

   To remove the target device access rights of a local account:

   - Select the name of the target device you wish to remove from the Assigned Target Devices list. Multiple target devices may be selected by pressing **Ctrl** while clicking on the column names.
   - Click *Remove*. The target devices will be moved to the Available list.

3. Click *Save* and then *Close*. The Appliance Local User Accounts window will appear.

Viewing active session information

You may view all active connections to target devices in your DSView system using the Active Sessions window.

Customizing the Active Sessions window

The following field is always displayed in the Active Sessions window:

- Start-Date-Time - Displays the time when the target device session was started.

By default, the following fields display in the Active Sessions window and may be removed using the *Customize* link:

- Duration - The length of the DSView session.
- User - The user who initiated the DSView session, which may be a DSView user, a local port user or a user with a local user account.
- Target Device - The name of the target device being used for the session.
- Type - The type of session, which may be KVM or Serial.

The following fields are not displayed by default, but may be displayed using the Customize link:

- Client - Displays the IP address of the DSView Client computer connected to the session for a non-proxy connection. The IP address of the DSView proxy will appear in this column for a proxy connection.
- Connection - Displays the connection path from the target device to the DSR switch or CPS appliance. See *Managing connections to units* on page 216 for more information.
- Mode - The mode of the session, which may change during the session. Available modes are:
  - Normal - An interactive session that may be shared with other DSView users. When two or more DSView users are sharing the session, the mode will change to Sharing Interactive.
  - Exclusive - A private session that does not allow sharing by other DSView users.
  - Sharing Interactive - A DSView session that is being shared by two or more DSView users. Interactive DSView users have full control of the video, mouse and keyboard. Passive users may also share the DSView session, but may only view the DSView session and have a state of Sharing Passive.

    A DSView user may view the usernames of other DSView users sharing the DSView session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or the DSView user is a member of the built-in DSView Administrators user group. DSView users viewing the session in Stealth mode will not be listed. If other DSView users disconnect from the session and a single DSView user remains connected, the mode will change to Normal.
  - Sharing Passive - A DSView session that is being shared by two or more DSView users. Passive users may only view the DSView session. Interactive DSView users may also share the DSView session, but have full control of the video, mouse and keyboard and have a state of Sharing Interactive.

A DSView user may view the usernames of other DSView users sharing the DSView session if *View identity of shared connections* is checked in the Video Viewer Session Properties dialog box or the DSView user is a member of the built-in DSView Administrators user group. DSView users viewing the session in Stealth mode will not be listed. If other DSView users disconnect from the session and a single DSView user remains connected, the mode will change to Normal.

- Scan - A temporary non-exclusive DSView session that displays connected target devices in a thumbnail viewer.

- Owner - Displays the name of the user that launched the session, which may be a DSView user, a local port user or a user with a local user account.
- Preemption Level - Displays the effective user preemption level for the DSView user that is connected to the target device session. See *User Preemption Levels* on page 21 for more information on preemption levels.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To view a list of active sessions and information about active sessions:

1. From the DSView 3.0 Explorer, click the Units tab. Units is automatically selected in the top navigation bar.
2. From the side navigation bar, click Active Sessions. The Active Sessions window will appear.

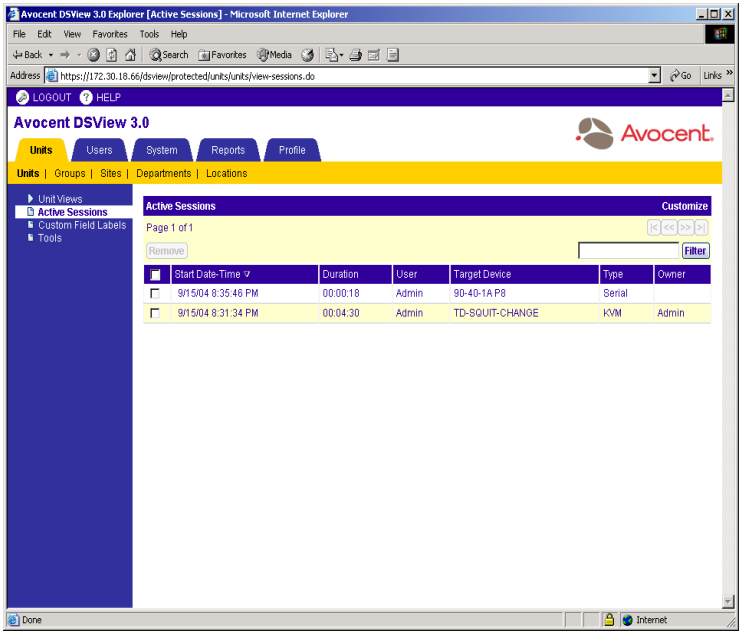


Figure 4.70: Active Sessions Window

3. Click on the name of an active session in the Start-Date-Time column. The Active Session Information window will appear.

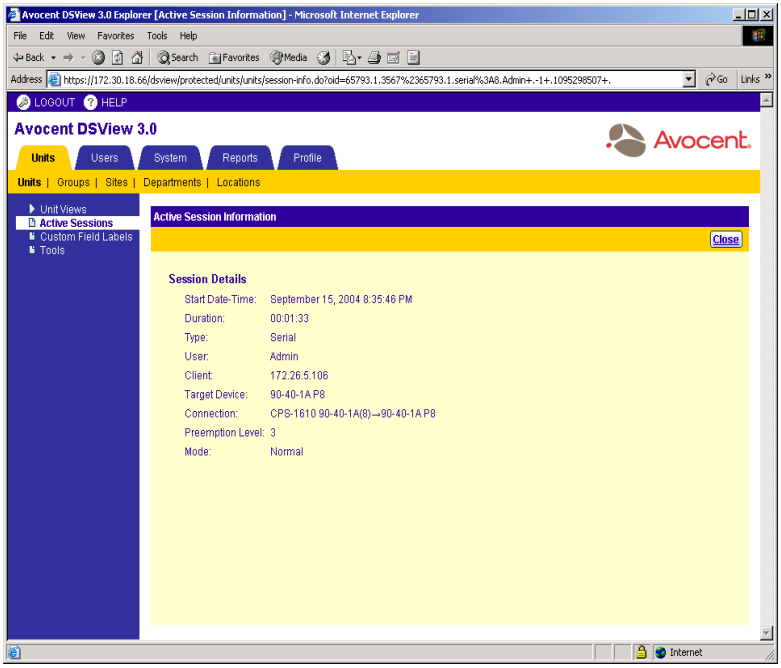


Figure 4.71: Active Session Information Window

4. Click *Close* to dismiss the window and return to the Active Sessions window.

To remove an active session from the Active Sessions window:

NOTE: Removing an active DSView Session from the Active Sessions window does not disconnect the session.

1. From the Active Sessions window, click the checkbox to the left of the active session you wish to remove.

   -or-

   Click the checkbox to the left of Start-Date-Time at the top of the list to select all active sessions listed in the window for removal.
2. Click *Remove*. A confirmation dialog box will appear.
3. Click *OK* to remove the active sessions.

   -or-

   Click *Cancel* to cancel the action.

Managing connections to units

Clicking on a unit in a Unit Views window and then clicking the *Connections* link will display the Target Device Connections window if you clicked on a target device or the Appliance Connections window if you clicked on a DSR switch or CPS appliance.

The Target Device Connections window lists all connections to the target device. You may also use this window to add or delete a connection to or from the target device.

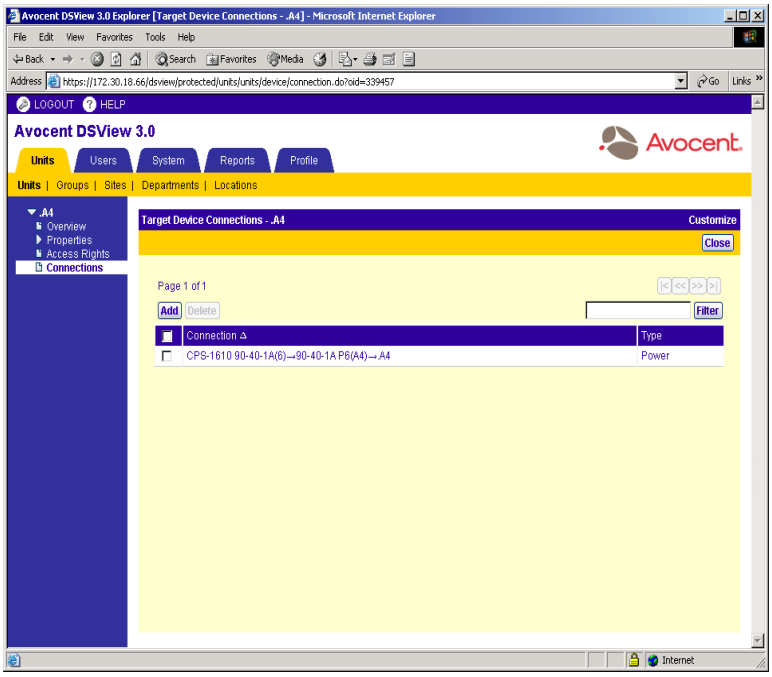


Figure 4.72: Target Device Connections Window

The Appliance Connections window lists all connections from the DSR switch or CPS appliance to cascade switches or target devices. Clicking on a DSR switch or CPS appliance connection will display the Appliance Connections - Rename window in which you may rename the units which are part of the connection path. The Appliance Connections - Rename window also displays the type of any SPC device, DSR, AutoView or Outlook switch, or CPS appliance that is connected to a DSR switch or CPS appliance.

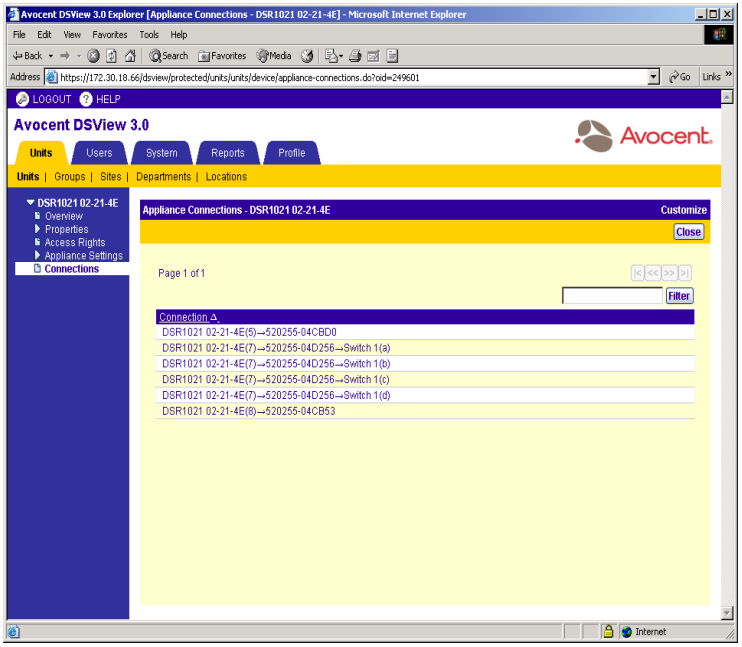


Figure 4.73: Appliance Connections Window

NOTE: The connections of EVR1500 environmental monitors and generic appliances may not be viewed.

Connections typically appear in a format similar to the following for connections to target devices, cascade switches and SPC devices:

<DSR Switch or CPS Appliance Name>(<Port>) → <EID Number> → <Target Device>

<DSR Switch or CPS Appliance Name>(<Port>) → <EID Number> → switch one <Port>→<Target Device>

<DSR Switch or CPS Appliance Name>(<Port>) → <SPC Device> (<Port>) → <Target Device>

The following examples illustrate typical connections that may appear in your DSView software.

Example: Target device connections

dsr-1021-huntsville(3)→520255-044F6F→td-john

dsr-1021-huntsville(4)→520255-03F757→td-mary

dsr-1021-huntsville(8)→520255-016BE0→td-tim

In the above example, there are three target devices connected to ports 3, 4 and 8 of a DSR1021 switch named dsr-1021-huntsville. The DSR1021 switch ports are connected to the three target devices using DSRIQ modules. The DSRIQ with an EID of 520255-044F6F is connected to target

device td-john, while 520255-03F757 is connected to td-mary and 520255-016BE0 is connected to td-tim.

Example: Cascade switch connection

dsr-1021-huntsville(1)→520255-023FB7→switch one (1)→520255-023FB701

dsr-1021-huntsville(1)→520255-023FB7→switch one (2)→520255-023FB702

dsr-1021-huntsville(1)→520255-023FB7→switch one (3)→520255-023FB703

dsr-1021-huntsville(1)→520255-023FB7→switch one (4)→520255-023FB704

dsr-1021-huntsville(1)→520255-023FB7→switch one (5)→520255-023FB705

dsr-1021-huntsville(1)→520255-023FB7→switch one (6)→520255-023FB706

dsr-1021-huntsville(1)→520255-023FB7→switch one (7)→520255-023FB707

dsr-1021-huntsville(1)→520255-023FB7→switch one (8)→520255-023FB708

In the above example, an Autoview 200 1 x 8 switch is connected to port one of a DSR1021 switch named dsr-1021-huntsville using a DSRIQ module with an EID of 520255-023FB7. Each port of the AutoView 200 switch is connected to a different target device (520255-023FB701-520255-023FB708).

Example: SPC device connection

dsr-1021-huntsville(SPC)→02-17-F2 SPC (A1)→02-17-F2 SPC A1

In the above example, an SPC switch is connected to the SPC port of a DSR1021 switch named dsr-1021-huntsville. SPC device outlet A1 is connected to target device 02-17-F2 SPC A1.

Customizing the Target Device Connections window

By default, the following field displays the Target Device Connections window and may be removed using the Customize link:

- Type - Displays the type of connection:
  - KVM - A connection to a port of a DSR switch using a DSRIQ module.
  - Serial - A serial port connection to a CPS appliance.
  - Power - A connection to an SPC device outlet.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To display the Target Device Connections or Appliance Connections window:

1. From a Unit Views window, click on a unit name. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear.
2. From the side navigation bar, click *Connections*. The Target Device Connections window including all connections to the target device will appear if you clicked on a target device name.

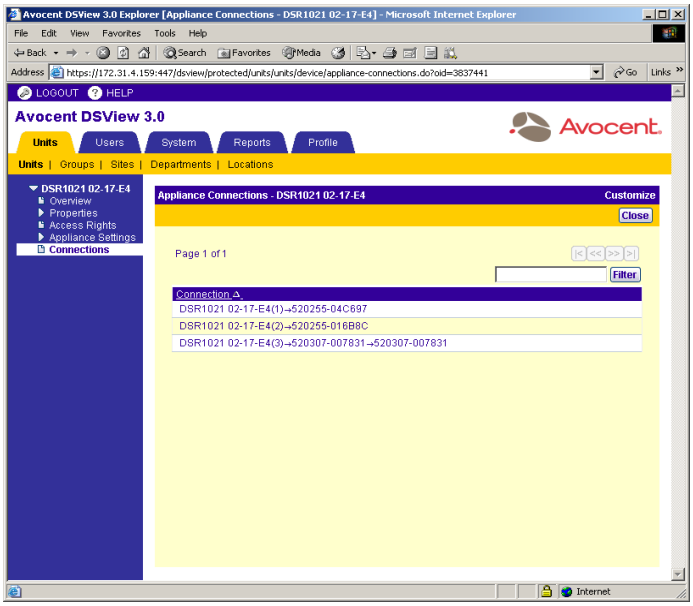


Figure 4.74: Appliance Connections Window (Target Device)

-or-

The Appliance Connections window including all connections to the DSR switch or CPS appliance will appear if you clicked on a DSR switch or CPS appliance.

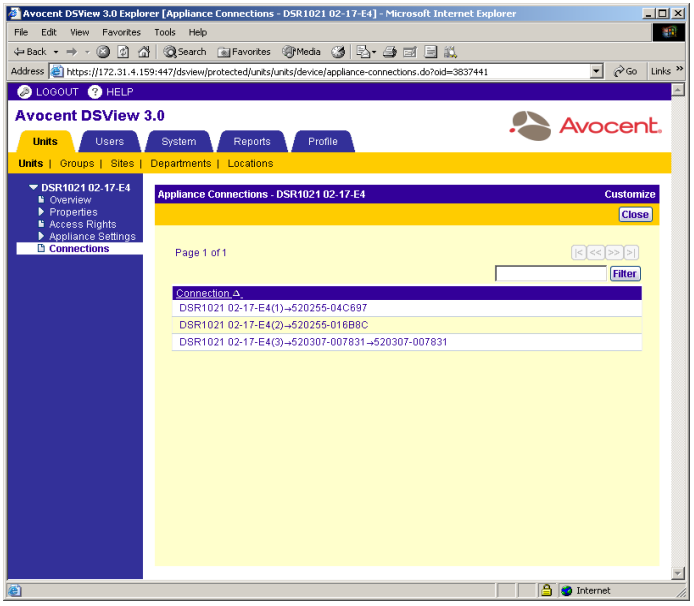


Figure 4.75: Appliance Connections Window (Appliance)

To rename a DSR switch or CPS appliance connection:

3. From the Appliance Connections window, click on a connection. The Appliance Connections - Rename window will appear.

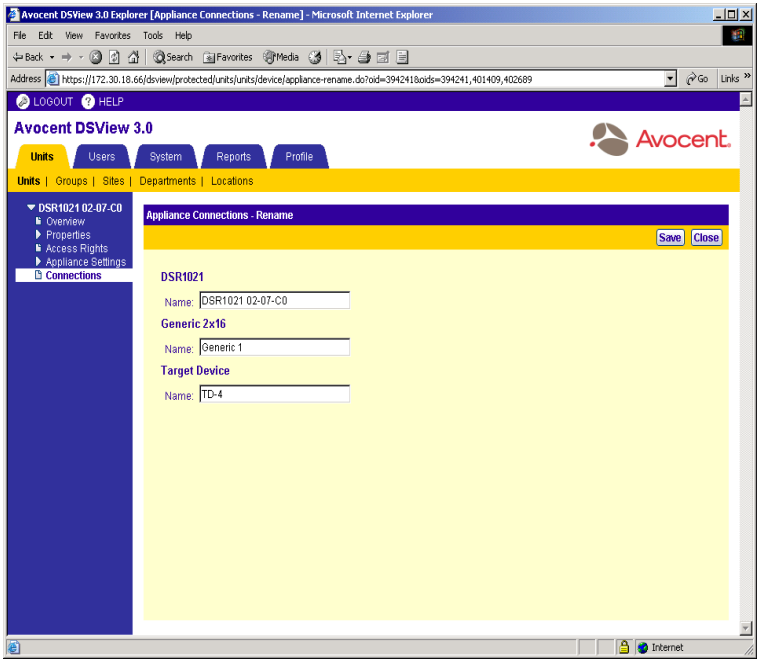


Figure 4.76: Appliance Connections - Rename Window

4. Type in new name for one or more items in the connection chain.
5. Click Save.
6. Click *Close*. The Appliance Connections window will appear including your changes.

Adding target device connections

You use the Add Target Device Connection Wizard to create a connection to a target device in the DSView software.

To add target devices:

1. Click *Add* in the Target Device Connections window to display the Welcome page of the Add Target Device Connection Wizard.
2. From the Add Target Device Connection Wizard, click *Next*.
3. The Select Connection Type window will appear.

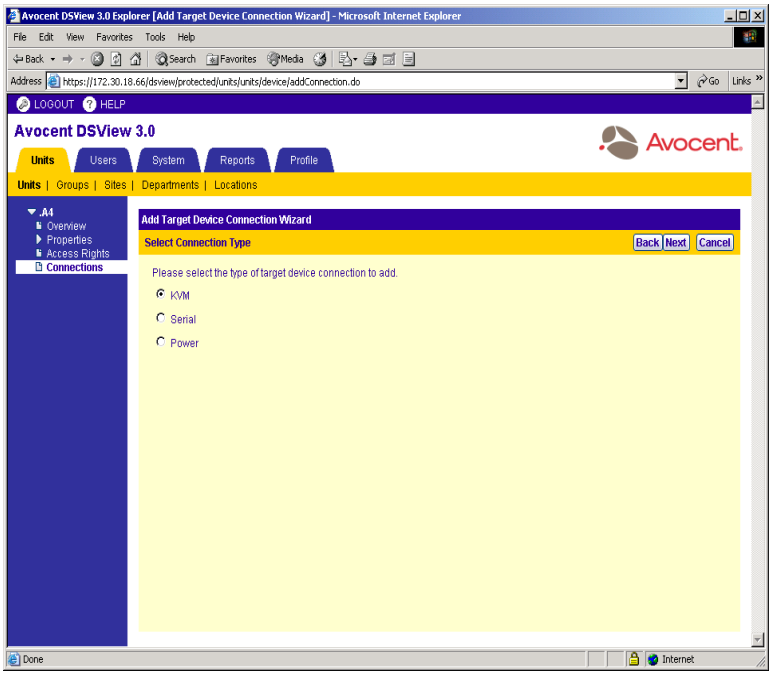


Figure 4.77: Add Target Device Connection Wizard - Select Connection Type Window

a. Select *KVM* to create a connection to a port of a DSR switch using a DSRIQ module.

   -or-

   Select *Serial* to create a serial port connection to a CPS appliance.

   -or-

   Select *Power* to create a connection to an SPC device outlet.

b. Click *Next*.

4. The Select Appliance with Available Ports window will appear.

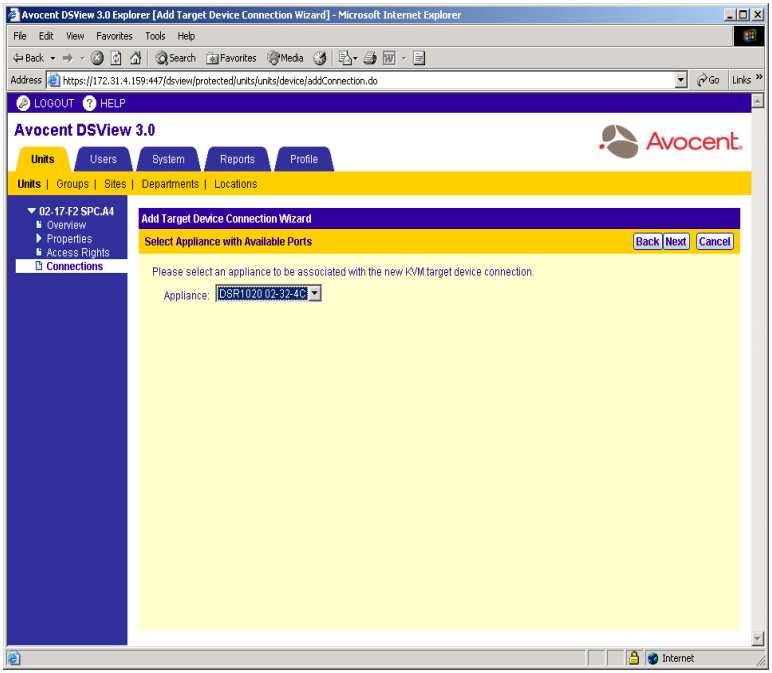

Avocent DSView 3.0 Explorer [Add Target Device Connection Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/units/device/addConnection.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
02-17-F2-SPC.A4
Overview
Properties
Access Rights
Connections
Add Target Device Connection Wizard
Select Appliance with Available Ports
Back Next Cancel
Please select an appliance to be associated with the new KVM target device connection.
Appliance: DSR1020 02-32-4C
Internet

Figure 4.78: Add Target Device Connection Wizard - Select Appliance with Available Ports Window (KVM Connection Type Shown)

   a. Select a DSR switch or CPS appliance from the drop-down menu.
   b. Click *Next*.

5. The Select Available Connection window will appear.

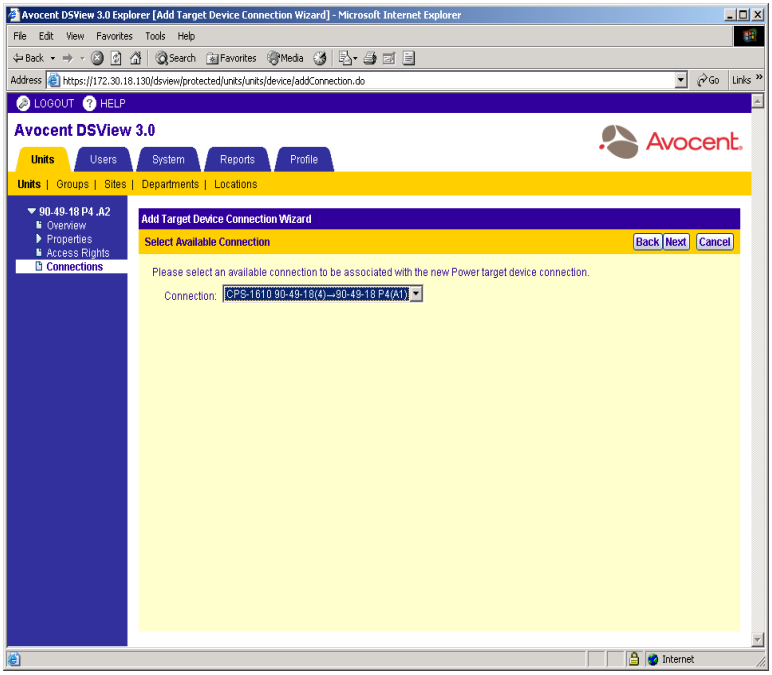

Avocent DSView 3.0 Explorer [Add Target Device Connection Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.130/dsview/protected/units/units/device/addConnection.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
90-49-18 P4 .A2
Overview
Properties
Access Rights
Connections
Add Target Device Connection Wizard
Select Available Connection
Back Next Cancel
Please select an available connection to be associated with the new Power target device connection.
Connection: CPS-1610 90-49-18(4)---90-49-18 P4(A1)
Internet

Figure 4.79: Add Target Device Connection Wizard - Select Available Connection Window (KVM Connection Type Shown)

a. Select a connection from the drop-down menu.

b. Click *Next*.

6. The Completed Successful window will appear. Click *Finish*. The Target Device Connections window will appear including the new connection to the target device.

To delete a target device connection:

1. From the Target Device Connections window, click the checkbox to the left of the target device connection you wish to delete.

   -or-

   Click the checkbox to the left of Connection at the top of the list to select all target devices listed in the window for deletion.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the target device connections.

   -or-

   Click *Cancel* to cancel the action.

CHAPTER 5

Managing DSView Users

About DSView Users

You must add DSView users in order for them to have access to the DSView 3.0 management software. Users are assigned a default access level when they are added. If you wish to assign DSView users a different access level, you will need to change their permissions.

In the DSView software, click *Users* in the tab bar of the DSView 3.0 Explorer to access commands to perform the following:

- Add DSView user accounts
- Delete DSView user accounts
- Unlock DSView user accounts
- Reset DSView user account passwords
- Specify properties for DSView users, including contact information, restrictions, certificates and access rights to appliances and target devices

Clicking *Users* in the tab bar will automatically select *Accounts* in the top navigation bar, *User Accounts - All* in the side navigation bar and displays the User Accounts - All window. The User Accounts - All window displays a list of all DSView users of all user account levels defined in the DSView system.

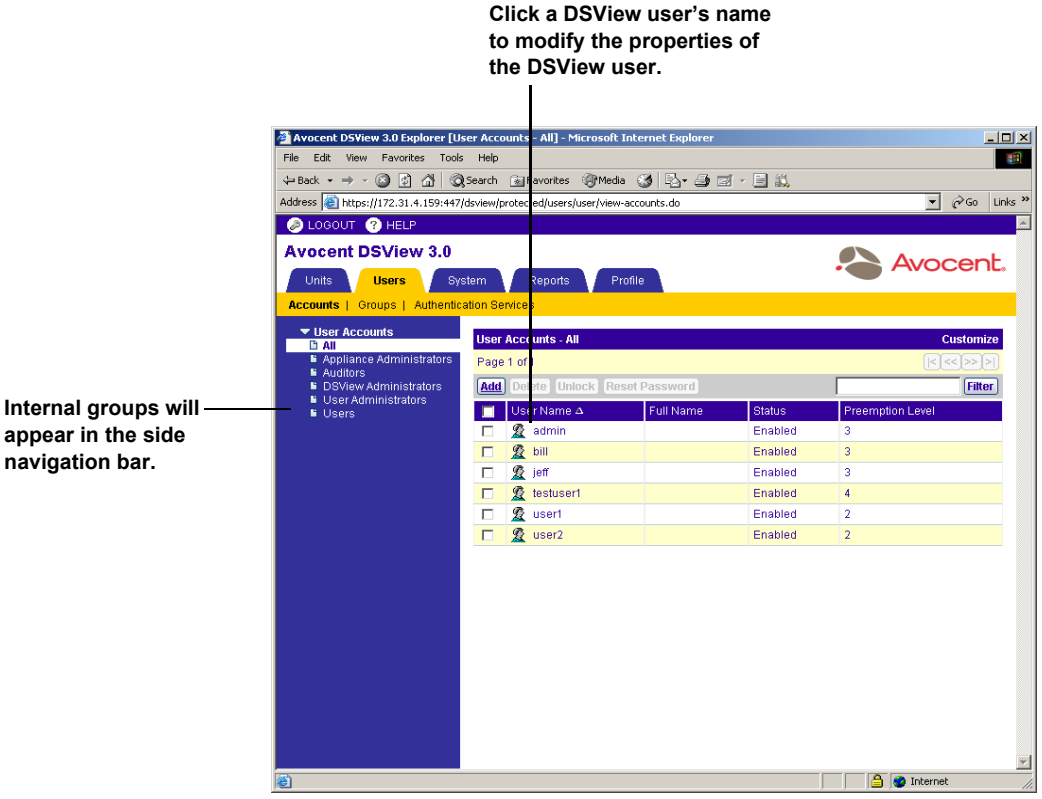


Figure 5.1: User Accounts - All Window

Using User Accounts to Display and Modify DSView users

All DSView users defined in the DSView system are located beneath User Accounts in the side navigation bar. Clicking on one of the links beneath User Accounts in the side navigation bar will display a User Accounts window containing a list of all DSView user in the DSView system belonging to the particular type of user account. For example, if three DSView users named John, Mary and Tim are members of the Appliance Administrators built-in user group, clicking *Appliance Administrators* in the side navigation bar will display these three as well as other DSView users that are members of the Appliance Administrators built-in user group.

NOTE: A DSView user may belong to multiple user groups.

Five types of user groups to which DSView users may be added are predefined and appear in the side navigation bar: Appliance Administrators, Auditors, DSView Administrators, User Administrators and Users. These user groups are built-in groups which contain privileges which may not be changed. See *Managing DSView Users using User Groups* on page 329 for information about built-in user group privileges.

A DSView user may also create any number of user-defined groups, which also appear in the side navigation bar.

See *Managing DSView Users using User Groups* on page 329 for more information about built-in and user-defined groups.

The properties of a DSView user may be modified by clicking on a DSView user's name. Links for items that may be modified will appear in the side navigation bar. See *Modifying DSView User Account Properties* on page 232 for information on modifying the properties of a DSView user.

Customizing the User Accounts window

By default, the User Name field is always displayed in the User Accounts window. One of the icons in Table 5.1 will appear to the left of the usernames and represent the status of each DSView user:

Table 5.1: DSView User Status Icons

Icon	Authentication Method Assigned to DSView User	Description
	DSView Internal	Disabled - The DSView user cannot log in to the DSView software. See *Specifying account restrictions for DSView users* on page 234 for more information.
	All Authentication Methods	Enabled - The DSView user can log in to and use the DSView software.
	DSView Internal	Locked - The user account has been locked and the DSView user cannot log in to the DSView software because the maximum number of log in failures has been exceeded. See *Modifying authentication services* on page 87 for more information on locking accounts and *Unlocking DSView User Accounts* on page 232 for information on unlocking an account.
	All External Authentication Services	Suspicious - The DSView software user account exists for the DSView user, but the external authentication server no longer contains the account.

The following fields display in the User Accounts window and may be removed by clicking the *Customize* link:

- Full Name - Displays another name for a DSView user defined in the DSView user's properties. For example, a DSView user may have a username of Sunrise1 and a full name defined as Mary Jones. See *Modifying the names of DSView users* on page 233 for information on defining a full name.
- Status- Displays whether the user account is Enabled, Disabled, Locked or Suspicious. One of the icons in Table 5.1 will appear to the left of the DSView user in the User Name column, reflecting the status of the user account.

- Preemption Level - Displays the effective preemption level of a DSView user. See *User Preemption Levels* on page 21 for information on preemption levels.

The following fields may be displayed in the User Accounts window by clicking the *Customize* link:

- Authentication Server - Displays the name of the internal or external authentication server. See *Managing Authentication Services* on page 72 for information on specifying an authentication server.
- Business Address - Displays the business address defined in the DSView user's properties. See *Specifying address information for DSView users* on page 235 for information on defining a business address.
- Business Mobile - Displays the business mobile phone number defined in the DSView user's properties. See *Specifying phone contact information for DSView users* on page 236 for information on defining a business mobile phone number.
- Business Phone - Displays the business phone number defined in the DSView user's properties. See *Specifying phone contact information for DSView users* on page 236 for information on defining a business phone number.
- Default E-Mail - Displays the default email account defined in the DSView user's properties. See *Specifying email contact information for DSView users* on page 236 for information on defining a default email account.
- Custom Field 1-Custom Field 6 - Displays the custom fields for the DSView user. If you have specified text for a custom field, that text will display when you display the custom field. See *Managing DSView Users using User Groups* on page 329 for more information.
- E-Mail 1-E-Mail 5 - Displays five additional email accounts defined in the DSView user's properties. See *Specifying email contact information for DSView users* on page 236 for information on defining additional email accounts.
- Group Preemption Level - Displays the highest preemption level of all groups to which the DSView user belongs. For example, if a DSView user belongs to Appliance Administrators (with a group preemption level of 3) and Auditors (with a group preemption level of 1), this field will display 3. See *User Preemption Levels* on page 21 for information on group preemption levels.
- Home Address - Displays the home address defined in the DSView user's properties. See *Specifying address information for DSView users* on page 235 for information on defining a home address.
- Home Phone - Displays the home phone number defined in the DSView user's properties. See *Specifying phone contact information for DSView users* on page 236 for information on defining a home phone number.
- Mobile Phone - Displays the mobile phone number defined in the DSView user's properties. See *Specifying phone contact information for DSView users* on page 236 for information on defining a mobile phone number.

- Pager - Displays the pager number defined in the DSView user's properties. See *Specifying phone contact information for DSView users* on page 236 for information on defining a pager number.
- User Preemption Level - Displays the user preemption level defined in the DSView user's properties. See *User Preemption Levels* on page 21 for information on preemption levels and *Changing the preemption level of DSView users* on page 235 for information on defining a defining a user preemption level.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To display DSView users in the User Accounts window:

1. From the DSView 3.0 Explorer, click the *Users* tab. *Accounts* is automatically selected in the top navigation bar, *User Accounts - All* is automatically selected in the side navigation bar and the User Accounts - All window will appear including all DSView users in your DSView system.
2. Click one of the links below User Accounts in the side navigation bar to display the User Accounts window you wish to view.

Adding DSView Users

Clicking *Add* in a User Accounts window will display the Add User Wizard, which guides a DSView user through the process of creating a new user account.

The following are defined when a user account is created:

- Whether the DSView user will be authentication using the DSView Internal authentication or an external authentication server.
- The user groups in which the DSView user will be included. Each user group contains specific access rights that allow a DSView user to perform specific actions.
- The preemption level for interrupting or disconnecting serial or KVM sessions. See *User Preemption Levels* on page 21 for information on preemption levels.

NOTE: You must have DSView Administrator or User Administrator rights to add a DSView user. See *Managing DSView Users using User Groups* on page 329 for more information.

To add DSView users:

1. From a User Accounts window, click the *Add* button. The Welcome window of the Add User Account Wizard will appear.

   Click *Next*.
2. The Select Authentication Service window will appear.

   The Select Authentication Service window will contain a list of all external authentication servers and the DSView Internal server that may be used to authenticate the DSView user when they log in. Any of the following authentication servers may be available:

NOTE: There may be multiple authentication services in your system. All authentication services in your DSView system will appear in the Select Authentication Service window.

- Active Directory - An external authentication service (purchased separately)
- DSView Internal - The internal DSView software authentication service that validates users against database tables in the authenticating DSView Server. The DSView Internal authentication service is always available.
- LDAP - An external authentication service (purchased separately)
- NT - An external authentication service (purchased separately). The NT authentication service requires the Microsoft Win32 platform.

See *Managing Authentication Services* on page 72 for information on adding an authentication service.

a. Select an authentication service.

b. Click *Next*.

If you selected DSView Internal as the authentication service, continue to step 3.

If you selected any other type of authentication service, go to step 4.

3. The Type in User Credentials window will appear.

   a. Type a username, password and confirm the password of the DSView user you are adding. If you wish for the DSView user to set their own password when they log in to the DSView software, click *User must change password at next login*.

NOTE: Usernames may be up to 64 non-case-sensitive characters long and cannot contain the @ symbol. Usernames are case-preserving. For example, if an account named JDoe is created, it will be saved as JDoe in the DSView Server, but a DSView user may log in as JDoe, jdoe, JDOe and so on.

NOTE: Passwords may be 3-64 characters long. By default, passwords must contain at least three characters. Passwords will never expire unless *User must change password at next login* is selected in the Unit Password window, or Passwords Expire information is specified in the Authentication Service User Account Policies window. A DSView Administrator may specify a different minimum character length and modify expiration criteria. See *Modifying authentication services* on page 87 for more information.

   a. Click *Next*.

   Go to step 6.

4. The Specify User Name window will appear.

   a. Click *Specify user on external authentication service* and type the name of the user in the field.

NOTE: Usernames may be up to 64 characters long and may not contain the @ symbol. Usernames may or may not be case-sensitive, depending on the requirements of your external authentication server.

   -or-

   Click *Find user on external authentication service* to browse a list of users on the external authentication service.

Click *Next*.

If you selected *Find user on external authentication service*, continue to step 5.

If you selected *Specify user on external authentication service*, go to step 6.

5. The Select User from External Authentication Service window displays.
   a. Select a user from the list.
   b. Click *Next*.
6. The Assign User to User Groups window will appear.

   This window displays a list of all built-in groups and any user-defined groups defined in the authentication service you specified for the user. See *Grouping* on page 295 for more information on groups.
   a. Select one or more groups from the Available Groups window and click *Add* to make the DSView user a member of the groups.
   b. Click *Next*.
7. The Select User Preemption Level window will appear.
   a. Type a preemption level (from 1-4) in the field, or select it using the drop-down menu. The higher the number, the higher the preemption level. For example, a DSView user with a preemption level of 4 can preempt DSView users assigned preemption levels of 1, 2 or 3. See *User Preemption Levels* on page 21 for more information on preemption levels.
   b. Click *Next*.
8. The Completed Successful window will appear. Click *Finish*. The DSView user has been added.

Deleting DSView User Accounts

To delete DSView user accounts:

1. From a User Accounts window, click the checkbox to the left of the DSView users you wish to delete.

   -or-

   Click the checkbox to the left of User Name at the top of the list to select all DSView users listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the DSView users

   -or-

   Click *No* to cancel the action.

Unlocking DSView User Accounts

If lock-out settings have been specified for the DSView Internal authentication service and a DSView user exceeds these settings, the DSView user will not be allowed to attempt another log in until a certain amount of time has passed. DSView users that have been locked out will appear with a lock next to their name in the User Accounts window and Locked will appear in the Status column.

User Administrators or DSView Administrators may manually unlock the DSView user accounts. See *Modifying authentication services* on page 87 for information on specifying lock-out settings.

To unlock a DSView user account:

1. From a User Accounts window, click the checkbox to the left of the DSView users you wish to unlock.
2. Click *Unlock*. The specified DSView users' accounts will be unlocked and the User Accounts - All window will update.

Resetting a DSView User Account Password

A User Administrator or DSView Administrator may choose to reset a DSView user's password. The DSView user will be required to login by typing *password* as their password and then choose and verify a new password for their account the next time they wish to start a new DSView software session.

To reset a DSView user account password:

3. From a User Accounts window, click the checkbox to the left of the DSView user(s) for which you wish to reset the password.
4. Click *Reset Password*.
5. A confirmation message box will appear. Click *Yes* to reset the password for the DSView user.
   -or-
   Click *No* to exit without changing the password.

Modifying DSView User Account Properties

If you have DSView Administrator or User Administrator privileges, you may modify the following account properties for a DSView user:

- The user (login) name and full name
- The certificate associated with the DSView user
- Login password
- Account login restrictions
- The user groups to which the DSView user is assigned

- User preemption levels
- Home and business addresses
- Home, business, mobile and pager phone numbers
- Primary email address and up to five additional email addresses
- Notes you wish to add about the DSView user
- Up to six custom fields

To modify a DSView user account:

1. Click on the name of a DSView user in a User Accounts window. The name of the DSView user account will appear at the top of the side navigation bar and a list of links will appear beneath the name.
2. Click on a link to display a window in which you may change the specific property.

Modifying the names of DSView users

The username information that you may specify for a DSView user includes:

- User Name - The name that the DSView software uses to log in and identify the DSView user.
- Full Name - The actual name of the DSView user.

For example, you may use Engr10 as the username and Jonathan Z. Smith as the full name to identify the person associated with the username of a DSView user in a User Accounts window.

To modify the name of a DSView user:

1. From a User Accounts window, click on a DSView username. *Name* is automatically selected in the side navigation bar and the User Name window will appear.
2. Type the username for the DSView user.
3. Type the full name of the DSView user.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Modifying the certificates associated with DSView users

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

To modify the certificate associated with a DSView user:

1. From the side navigation bar, click *Certificate*. The User Certificate window will appear.
2. Type path and name of the certificate.

   -or-

   Use the *Browse* button and select a certificate using the Choose File dialog box.

3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Modifying DSView user passwords

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

The password of a DSView user may be changed or you may specify that the DSView user must specify a new password when they log in to their next DSView software session.

To modify the password of a DSView user:

1. From the side navigation bar, click *Password*. The User Password window will appear.
2. Type the new password you wish to assign to the DSView user and verify the password.
3. Click *User must change password at next login* if you wish for the DSView user to define a new password when they log in to their next DSView software session.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Specifying account restrictions for DSView users

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

To specify account restrictions for DSView users:

1. From the side navigation bar, click *Restrictions*. The User Account Restrictions window will appear.
2. Click *Disable user account* if you wish to prevent the DSView user from logging in to the DSView software. The DSView user's account may be re-enabled by unchecking *Disable user account*.

NOTE: The DSView user will remained logged in if they have an open session.

3. Click *User must change password at next login* if you wish for the DSView user to define a new password when they log in to their next DSView software session.
4. Click *User cannot change password* if you wish to prevent the DSView user from changing their password.
5. Click *Password never expires* if you wish for the DSView user's password to never expire.
6. Click *Save* to save your changes.
7. Click *Close*. The User Accounts window will appear including any modifications.

Changing DSView user group membership

A DSView user is assigned to a user group when the DSView user is added to the DSView software. You may add or remove the DSView user to or from user groups.

To change the group membership of a DSView user:

1. From the side navigation bar, click *User Groups*. The User Group Membership window will appear.
2. Select the groups to which you wish to add or remove the DSView user:

   To add the DSView user to groups:

   - Select the group to which you wish to add the DSView user in the Available Groups list. Multiple groups may be selected by pressing **Ctrl** or **Shift** while clicking on the group names.
   - Click *Add*. The columns will be moved to the Member of list.

   To remove the DSView user from groups:

   - Select the group from which you wish to remove the DSView user in the Member of list. Multiple groups may be selected by pressing **Ctrl** or **Shift** while clicking on the group names.
   - Click *Remove*. The groups will be moved to the Available Groups list.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Changing the preemption level of DSView users

You may specify the user preemption level for the DSView user. See *User Preemption Levels* on page 21 for information on preemption levels.

To change the preemption level of a DSView user:

1. From the side navigation bar, click *Preemption Levels*. The User Preemption Level window will appear.
2. Select a preemption level (1-4) from the drop-down menu.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Specifying address information for DSView users

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

You may specify the home and business address for a DSView user. Both names appear in the User Accounts window.

To specify address information for a DSView user:

1. From the side navigation bar, click *Addresses*. The User Address Properties window will appear.
2. Type the home address of the DSView user.
3. Type the business address of the DSView user.
4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Specifying phone contact information for DSView users

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

You may specify home, business, mobile and business mobile phone numbers and a pager number for a DSView user. The numbers will appear in the User Accounts window. Assigning phone contact information may be helpful for quickly locating the person if an issue or question arises.

To specify phone contact information for a DSView user:

1. From the side navigation bar, click *Telephones*. The User Telephone Properties window will appear.
2. Type the home phone number of the DSView user.
3. Type the business phone number of the DSView user.
4. Type the mobile phone number of the DSView user.
5. Type the mobile business phone number of the DSView user.
6. Type the pager number of the DSView user.
7. Click *Save* to save your changes.
8. Click *Close*. The User Accounts window will appear including any modifications.

Specifying email contact information for DSView users

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

You may specify a primary email address and up to five additional email addresses for a DSView user. The email addresses will appear in the User Accounts window. Assigning email contact information may be helpful for notifying the person if an issue or question arises.

To specify email contact information for a DSView user:

1. From the side navigation bar, click *E-Mail Addresses*. The User E-Mail Properties window will appear.
2. Type the primary email address of the DSView user.
3. Type up to five additional email addresses.

4. Click *Save* to save your changes.
5. Click *Close*. The User Accounts window will appear including any modifications.

Creating DSView user notes

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

Notes contain information that you may wish to keep about a DSView user for future reference.

To create notes about a DSView user:

1. From the side navigation bar, click *Notes*. The User Notes window will appear.
2. Type the information you wish to note about the DSView user.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Modifying DSView user custom field properties

NOTE: This property may only be modified for DSView users using Internal Authentication. See *Managing Authentication Services* on page 72 for more information on authentication services.

Six custom fields for DSView users are provided within the DSView software. You may specify any information you wish in these fields for display in the User Accounts window. For example, you may wish to define custom fields such as title and so on.

To modify the custom fields of a DSView user:

1. From the side navigation bar, click *Custom Fields*. The User Custom Fields window will appear.
2. Type the information in the fields you wish to define.
3. Click *Save* to save your changes.
4. Click *Close*. The User Accounts window will appear including any modifications.

Viewing the Access Rights of DSView Users

The access rights of one or more user groups and/or DSView users may be associated to one or more units. For example:

- A DSView user is created with the login name johnsmith
- The DSView user is then assigned to the User Administrators group
- A DSR1021 switch is added to the DSView system
- Using the Unit Access Rights window, the User Administrators group is assigned to the DSR1021 switch and various rights are assigned to the switch. The DSView user johnsmith will have the rights assigned to the User Administrators group as long as he is a member of the

group. If johnsmith is removed from the User Administrators group, he will no longer have the rights of the group.

Alternatively, if the User Administrators group was not going to be assigned access rights to the DSR1021 switch, access rights could be added for only the user johnsmith.

See *Adding DSView Users* on page 229 for information on adding a DSView user, *Managing DSView Users using User Groups* on page 329 for information on assigning a DSView user to a group and *Modifying unit access rights* on page 161 for information on assigning access rights to a managed appliance.

Customizing the Target Device Access Rights and Appliance Access Rights windows

By default, the Name field is always displayed in the Target Device Access Rights window. The following fields also display and may be removed clicking the *Customize* link:

- Viewer Sessions - Specifies whether the DSView user may view KVM sessions using a Video Viewer window or Serial sessions using a Telnet/SSH applet window.
- Power Control - Specifies whether the DSView user may control the power of the target device if it is connected to an SPC device outlet.

By default, the Name field is always displayed in the Appliance Access Rights window. The following fields also display and may be removed clicking the *Customize* link:

- Reboot - Specifies whether the DSView user may reboot the DSR switch or CPS appliance. See *Rebooting DSR switches and CPS appliances* on page 357 for more information.
- Flash Upgrade - Specifies whether the DSView user may FLASH upgrade the DSR switch or CPS appliance. See *Upgrading the firmware on DSR switches and CPS appliances* on page 358 for more information.
- Settings - Specifies whether the DSView user may change the appliance settings of the DSR switch or CPS appliance. See *Modifying managed appliance settings* on page 165 for more information.
- Local Users - Specifies whether the DSView user may manage local accounts on the DSR switch or CPS appliance. See *Modifying local account settings on DSR switches and CPS appliances* on page 204 for more information.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To view a DSView user's access rights to a target device:

1. From the side navigation bar, click *Access Rights*.
2. From the side navigation bar, click *Target Devices*. The Target Device Access Rights window will appear.
    - If a black check mark appears, the DSView user has the right to perform the corresponding action.

- If a grey check mark appears, a group to which the DSView user belongs has the right to perform the corresponding action.
- If no check mark appears, the indicated action may not be performed because access rights have not been specified on the target device for the DSView user or group to which the DSView user belongs.

3. Click *Close* when you are finished reviewing the access rights. The User Accounts window will appear.

To view a DSView user's access rights to a managed appliance:

1. From the side navigation bar, click *Access Rights*.
2. From the side navigation bar, click *Appliances*. The Appliance Access Rights window will appear.
   - If a black check mark appears, the DSView user has the right to perform the corresponding action.
   - If a grey check mark appears, a group to which the DSView user belongs has the right to perform the corresponding action.
   - If no check mark appears, the indicated action may not be performed because access rights have not been specified on the managed appliance for the DSView user or group to which the DSView user belongs.
3. Click *Close* when you are finished reviewing the access rights. The User Accounts window will appear.

CHAPTER 6

Using the Video Viewer Window

About the Video Viewer Window

The Video Viewer window is used to conduct a KVM session with one or more target devices attached to one or more DSR switches. When you connect to a device using the Video Viewer, the target device desktop appears in a separate window. You will see both the local and the target device cursor. The Video Viewer window supports either a 3- or 5-button mouse.

The DSView software uses either a Java-based program or an ActiveX applet to display the Video Viewer window.

NOTE: The DSView software uses system memory to store and display images within Video Viewer windows. Each opened Video Viewer window requires additional system memory. An 8-bit color setting on the Client PC requires 1.4 MB of memory per Video Viewer window, a 16-bit color setting requires 2.4 MB and a 32-bit color setting requires 6.8 MB. Opening more than four simultaneous Video Viewer windows may affect system performance and is not recommended. If you attempt to open more Video Viewer windows than your system memory allows, you will receive an out of memory error and the requested Video Viewer window will not open.

From this window, you will be able to operate a device as if you were sitting in front of it. You may also perform viewer-specific tasks such as sending macro commands to the device.

KVM sessions may be launched to devices from any DSR switch. Each KVM session will be established using the encryption level specified by the DSView Administrator in the Appliance Settings - Sessions - Settings Window. See *Viewing and modifying session settings on DSR switches or CPS appliances* on page 194 for more information.

If the device you are attempting to access is currently being viewed by another DSView user and you have Administrator privileges, you may disconnect the other DSView user so that you may access that device.

You cannot preempt a local user who is in Broadcast mode. See the DSR Installer/User Guide for additional information.

Video Viewer window minimum requirements

The Video Viewer window requires one of the following operating systems:

- Windows 2000 Workstation or Server with Service Pack 2
- Windows Server 2003 Standard, Enterprise or Web Edition
- Window NT 4.0 Workstation or Server with Service Pack 6a
- Windows XP Home Edition or Professional

The Video Viewer window requires Internet Explorer 6.0 SP1 or later

To launch a KVM session, a DSView user must be individually assigned rights or belong to a user group which has been assigned rights to establish a KVM session. DSView users and user groups are assigned KVM session establishment rights at the DSR switch level using the Unit Access Rights window. See *Modifying unit access rights* on page 161 for more information. You may review which DSView users may establish KVM session connections at the DSView user level by viewing the Target Device Access Rights or Appliance Access Rights windows. See *Viewing the Access Rights of DSView Users* on page 237 for more information.

Launching a KVM session

NOTE: When using a non-proxied connection, video performance over a slower network connection may be less than optimal. Since certain color settings (such as Gray Scale) use less network bandwidth than others (such a Best Color), changing the color settings may increase video performance. For optimal video performance over a slower network connection, a color setting such as Gray Scale/Best Compression or Low Color/High Compression is recommended. See *Adjusting color depth* on page 251 for more information.

A KVM session is launched from the DSView 3.0 Explorer or using the Unit Overviews window.

To launch a KVM session from the DSView 3.0 Explorer:

1. Display a Target Devices, Units in Site, Units in Custom Field or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 122 for more information.
2. Click the *KVM Session* link in the Action column of the target device you wish to view.

   The Video Viewer launches in a new window.

To launch a KVM session using the Unit Overview window:

1. Display a Target Devices, Units in Site, Units in Custom Field or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 122 for more information.
1. Click on the name of a target device connected to a DSR switch. The side navigation bar will contain the name of the target device at the top and *Overview* will automatically be selected. The Unit Overview window will appear.

2. Click on the *KVM Session* name or icon.

   The Video Viewer launches in a new window.

Launching an exclusive KVM session

If a DSView user needs to access a port while excluding all other DSView users, an Exclusive KVM connection is used. When a port is selected with the Exclusive KVM connection setting enabled, no other DSView user in the system may switch to that port. If another DSView user initiates a connection to a port currently accessed by another DSView user using an Exclusive KVM connection, that user will receive a message indicating the port's status and will not be connected to the port.

To launch an exclusive (non-shared) KVM session from the DSView 3.0 Explorer:

1. Display a Target Devices, Units in Site, Units in Custom Field or Recently Accessed Units window. See *Using the Unit Views to display and modify units* on page 122.
2. Click on the name of the target device to which you wish to establish an exclusive connection. The name of the target device and a list of item links will appear in the side navigation bar, *Overview* will be automatically selected in the side navigation bar and the Unit Overview window will appear.
3. Click *Exclusive KVM Session*.
4. Click the *KVM Session* icon or link in the Unit Overview window.

   The Video Viewer launches in a new window. A yellow dot will appear next to the icon of the target device in the Target Devices, Units in Site, Units in Custom Field and Recently Accessed Units windows to indicate that the target device is using an Exclusive KVM connection. Other DSView users may not share the DSView session.

Connecting to an existing KVM session

When you attempt to connect to a port already in user by another DSView user, the Cannot connect to the server dialog box displays and states that the port is in use along with the name of the current DSView user(s). At this point, you may request to share access to the port with the current DSView user(s).

You may be presented with one or more of the following options in the Cannot connect to the server dialog box:

- Actively share a connection - When the dialog box contains a statement asking if you wish to share a connection to the server and you click *Share with the other user* and do not click Passive Share, an active connection will be established. When sharing access to a port actively, all DSView users may monitor the port and may take control if no other DSView user is currently active.

When you click *OK* on the "Cannot connect to the server" dialog box, the primary DSView user that is currently active will receive a request to allow sharing unless Allow shared connections automatically in the Video Viewer Session Properties window has been selected. See *Specifying Video Viewer session settings* on page 247 for more information. If they confirm, then you will gain active access to the port.

- Passively share a connection - When you click *Share with the other user* and also click *Passive Share* in the dialog box, a passive connection will be established. When sharing access to a port passively, you may only view what occurs on the server and be unable to control the keyboard or mouse.

  When you click *OK* on the "Cannot connect to the server" dialog box, the primary DSView user that is currently active will receive a request to allow sharing unless Allow shared connections automatically has been selected in the Video Viewer Session Properties window. See *Specifying Video Viewer session settings* on page 247 for more information. If they confirm, then you will gain passive access to the port.
- Preempt a DSView user's connection (DSView Administrators and User Administrators only) - When the dialog box contains a statement asking if you wish to preempt the DSView user's session and you click *Preempt the other user*, the DSView user requesting access to the target device will be connected and the existing DSView user(s) will lose their connection to the target device. The existing DSView user(s) will be notified that the DSView session has been preempted.
- Make a stealth connection (DSView Administrators and User Administrators only) - When the dialog box contains a statement asking if you wish to connect using Stealth mode and if you click *Stealth mode*, a Video Viewer window session will be started but you will only be able to view what occurs on the server and be unable to control the keyboard or mouse. The DSView user that is currently active will not receive notification that access is being shared and no request to authorize sharing will be made.

Up to 12 DSView users may share a single port at one time. If a 13th DSView user attempts to connect, an error message will inform the DSView user that no sessions are available.

At any time, a DSView user may select *View - List of Shared Users* in a Video Viewer window to view a list of DSView users sharing their port or channel. DSView users in Stealth mode are excluded from this list.

Session time-out

A remote session may time-out if there has been no activity in a Session window for a specified time. The session time-out value is configured by your DSView Administrator at the DSR switch level using the Appliance Session Settings window. See *Modifying managed appliance settings* on page 165 for more information.

You may override this value within the DSView 3.0 Explorer. If you specify a new time-out value, it will be used the next time the DSView management software is started. See *Connecting to an existing KVM session* on page 243 for more information.

Window Features

Figure 6.1 shows the Video Viewer window areas, and descriptions follow in Table 6.1.

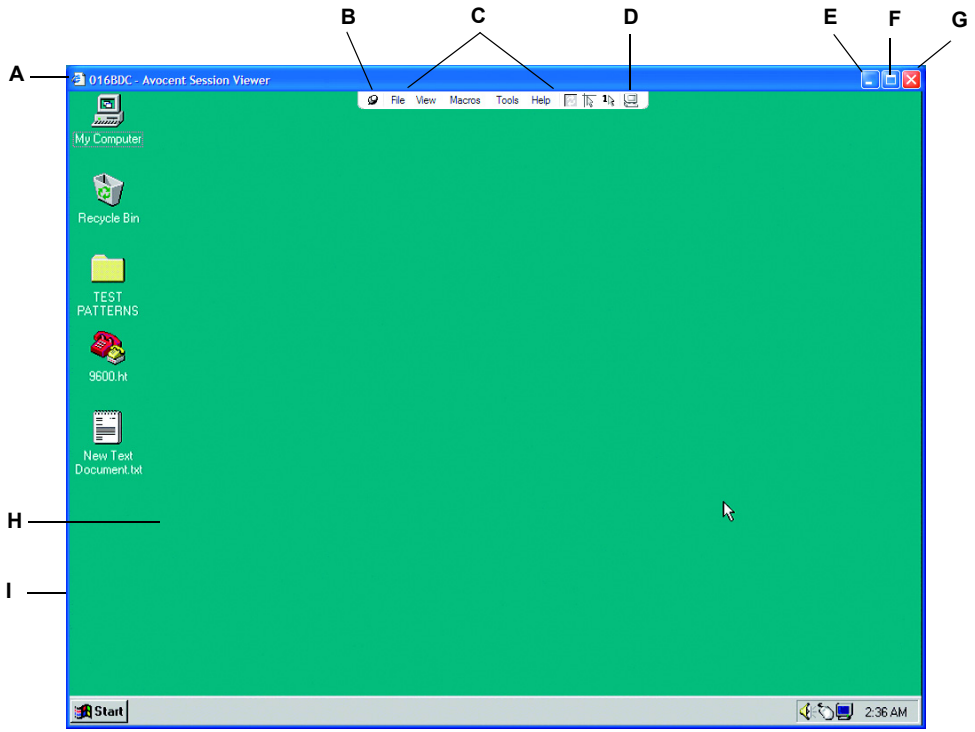


Figure 6.1: Video Viewer Window (Normal Window Mode)

Table 6.1: Video Viewer Window Descriptions

Letter	Description
A	Title Bar - Displays the name of the server being viewed. When in Full Screen mode, the title bar disappears and the server name appears between the menu and toolbar.
B	Thumbtack - Locks the view of the menu and toolbar so that it is visible at all times.
C	Menu and toolbar: Allows you to access many of the features in the Video Viewer window. The menu and toolbar will be in a show/hide state if the thumbtack has not been used. Place your cursor over the toolbar to display the menu and toolbar. Up to ten command and/or macro group buttons may be displayed on the toolbar. By default, the Single Cursor Mode, Refresh, Automatic Video Adjust and Align Local Cursor buttons appear on the toolbar. See *Modifying the toolbar* on page 247 and *Using Global and Personal Macros* on page 262 for more information.
D	Macro buttons: Display when a DSView user specifies icons for macros and that the icons should appear on the toolbar. See *Using Global and Personal Macros* on page 262 for more information.
E	Minimize button: Minimizes the display of the Video Viewer window into the taskbar at the bottom of the local computer.
F	Maximize button: Changes the window to Full Screen mode, which expands the accessed device desktop to fill the entire screen. When you expand the window, the following occurs: • The title bar disappears • The server name appears between the menu and toolbar • The Maximize button is changed to a Normal Window Mode button and it appears on the toolbar. Clicking the button will toggle the Video Viewer window to Normal Window mode. • The Close button appears on the toolbar
G	Close button: Closes the VIdeo Viewer window.
H	Accessed device desktop: Interact with your device through this window.
I	Frame: Click and hold on the frame to resize the Video Viewer window.

NOTE: The Close button may not be present on all operating systems.

See the DSR Installer/User Guide for information about how the keys on a standard Type 5 Sun keyboard are emulated on a PS/2 keyboard.

Specifying Video Viewer session settings

To specify Video Viewer session settings:

NOTE: You must have DSView Administrator or User Administrator privileges to specify Video Viewer session settings.

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Global Properties*. *Video Session Properties* is automatically selected in the side navigation bar and the Video Viewer Session Properties window will appear.
   a. Select *Allow shared connections automatically* if you wish to allow other DSView users to share a Video Viewer session automatically. You will not be notified that they wish to connect to the session and will not be able to accept or reject the connection.

      -or-

      Leave the checkbox empty if you wish to be notified that other DSView users wish to share the Video Viewer session. When a DSView user attempts to connect to the session, you will be notified and allowed to either accept or reject their connection request.
   b. Select *View identity of shared connections* if you wish to view a list of shared connections using the *View - Connected Users* command. See *Displaying Video Viewer Window Users* on page 271 for information on viewing a list connected DSView users.
3. Click *Save* to save your changes and then *Close*.

Modifying the toolbar

You may choose the amount of time before the toolbar hides in the Video Viewer window when it is in show/hide state (that is, not locked in place by the thumbtack) and which commands and macros appear on the toolbar. See *Using Global and Personal Macros* on page 262 for information on Personal Macros and managing Exit (Global) and Personal Macros in the Video Viewer window.

To specify a toolbar hide time:

1. Select *Tools - Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *Toolbar* tab.
3. Use the arrow keys to specify the number of seconds to delay the hiding of the toolbar.
4. Click *OK* to save your changes and dismiss the dialog box.

To add or remove macros or commands from the toolbar:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *Toolbar* tab.
3. Select or deselect the checkboxes of the commands and macros you wish to display or remove from the toolbar.
4. Click *OK* to save your changes and dismiss the dialog box.

Toggling menu and toolbar activation

You may specify a key that will show the menu and toolbar when they are hidden.

To select a key for toggling activation of the menu and toolbar:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *General* tab.
3. Select a keystroke from the drop-down menu in the Menu Activation Keystroke area.
4. Click *OK*. When you disable the menu and toolbar, the specified key may be pressed to reenable the menu and toolbar.

Setting the Window Size

NOTE: The View - Scaling command is not available if the Video Viewer window is in Full Screen mode or to non-primary DSView users of a shared session.

When the DSView management software is used for the first time, any Video Viewer windows that are opened from a DSR switch port or channel in any DSView software sessions will display at a resolution of 1024 x 768 until the value is changed by a DSView user. Each Video Viewer window may be set to a different resolution.

The DSView software will automatically adjust the display if the window size changes during a session as long as autoscaling is enabled. When a DSView user accesses a channel via sharing, the display will be adjusted to match the input resolution selected by the primary DSView user of that channel. This will prevent the primary DSView user's display from being affected. If the target device resolution changes any time during a session, the display will be adjusted automatically.

To change the Video Viewer window resolution:

Select the *View* - *Scaling* command and then click on the desired resolution.

Adjusting the View

Using menus or Task buttons in the Video Viewer window, you may:

- Align the mouse cursors.
- Refresh the screen.
- Enable or disable Full Screen mode. When Full Screen mode is enabled, the image will be adjusted to fit the desktop up to a size of 1024 x 768. If the desktop has a higher resolution, the following will occur:
  - The full screen image will be centered in the desktop and the areas surrounding the Video Viewer window will be black.
  - The menu and toolbar will be locked so that it is in visible at all times.
- Enable automatic, full or manual scaling of the session image. With automatic scaling, the desktop window remains fixed and the device image is scaled to fit the window. With full scaling, the desktop window is sized to match the resolution of the server being viewed. With manual scaling, a drop-down menu of supported image scaling resolutions is displayed.
- Change the color depth of the session image.

To align the mouse cursors:

Click the *Align Local Cursor* button in the Video Viewer window toolbar. The local cursor will align with the cursor on the remote device.

If cursors drift out of alignment, turn off mouse acceleration in the device.

To refresh the screen:

Click the *Refresh Image* button in the Video Viewer window.

-or-

Select *View* - *Refresh* from the Video Viewer window menu. The digitized video image will be completely regenerated.

NOTE: You may also specify background refreshing of the Video Viewer window by a DSR switch. See *Using background refresh* on page 250 for more information.

To enable or disable Full Screen mode:

NOTE: The View - Full Screen command may only be used by the primary DSView user. The command is not available to non-primary DSView users who are sharing the session.

1. To enable Full Screen mode, click the *Maximize* button.

   -or-

   Select *View* - *Full Screen* from the Video Viewer window menu.

The desktop window will disappear and only the accessed device desktop will be visible. The screen will be resized up to a maximum of 1024 x 768. If the desktop has a higher resolution, then a black background will surround the full screen image. The floating toolbar will appear.

2. To disable Full Screen mode, click the *Full Screen Mode* button on the floating toolbar to return to the desktop window.

To enable automatic, full or manual scaling:

NOTE: The View - Scaling command is not available if the Video Viewer window is in Full Screen mode or to non-primary DSView users of a shared session.

To enable automatic scaling, select *View* - *Scaling* from the Video Viewer window menu. The device image will be scaled automatically.

-or-

To enable full scaling, select *View* - *Scaling* from the Video Viewer window menu. The device image will be scaled to the resolution of the server being viewed automatically.

-or-

To enable manual scaling, select *View* - *Scaling* from the Video Viewer window menu, then choose the dimension to scale the window. Available manual scaling sizes are:

- 1024 x 768
- 960 x 720
- 896 x 672
- 832 x 624
- 768 x 576
- 704 x 528
- 640 x 480

Using background refresh

In addition to using the Refresh Image command, you may also choose to allow the DSR switch to background refresh the Video Viewer window. When this option is enabled, a small portion of video data is constantly sent by the DSR switch. When background refresh is not enabled, the Video Viewer window is updated by the DSR switch only when it determines that the target device video image has changed.

NOTE: This option is not available if the DSR switch being used to view the target device does not support background refresh or if the DSR Remote Operations software is being used to connect to the DSR appliance viewing the target device. See *DSR Remote Operations Software* on page 433 for more information.

To enable or disable background refresh:

1. Select *Tools - Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *General* tab.
3. Select *Background Refresh* to enable the option.

   -or-

   Uncheck *Background Refresh* to disable the option.
4. Click *OK*.

Adjusting color depth

NOTE: The View - Color command may only be used by the primary DSView user. The command is not available to non-primary DSView users who are sharing the session.

The DSR switch DVC algorithm enables DSView software users to adjust the number of viewable colors in a remote session window. You may choose to display more colors for the best fidelity, or fewer colors to reduce the volume of data transferred on the network.

The DVC algorithm upgrade is standard on all DSR switches supported by the DSView software.

Video Viewer windows can be viewed using the best color available (slower updates), the best compression (fastest updates), a combination of best color and best compression or in greyscale.

The color depths of individual ports and channels can be specified by selecting the *View - Color* command in a remote session window. These settings are saved individually per port and channel.

Additional video adjustment

Generally, the Video Viewer window automatic adjustment features will optimize the video for the best possible view. However, DSView users may fine tune the video with the help of Avocent Technical Support by using the *Tools - Manual Video Adjust* command in the Video Viewer window menu or clicking the *Manual Video Adjust* button. This displays the Manual Video Adjust dialog box.

Video adjustment is a per target setting and applies to each target device you access.

Modified video settings are written to the DSR switch. Settings are also stored per port/channel session on a system when they are made and saved so they may be used during a non-shared session as follows:

- If sharing is not enabled, the video settings made on the local DSR switch during the session are used.
- If sharing is enabled for the non-primary DSView user, video settings are read from the DSR switch.

See *Connecting to an existing KVM session* on page 243 for more information on session sharing.

Users may verify the level of packets per second required to support a static screen by observing the packet rate which is located in the lower left-hand corner of the dialog box.

To manually adjust the video quality of the window:

NOTE: The following video adjustments should be made only on the advice and with the help of Avocent Technical Support.

1. Select *Tools* - *Manual Video Adjust* from the Video Viewer window menu.

   -or-

   Click the *Manual Video Adjust* button

   The Manual Video Adjust dialog box appears. See the following figure; descriptions follow the figure.
2. Click the icon corresponding to the feature you wish to adjust.
3. Move the slider bar and then fine tune the setting by clicking the *Min* (-) or *Max* (+) buttons to adjust the parameter for each icon pressed. The adjustments will display immediately in the Video Viewer window.
4. When finished, click *Close* to exit the Manual Video Adjust dialog box.

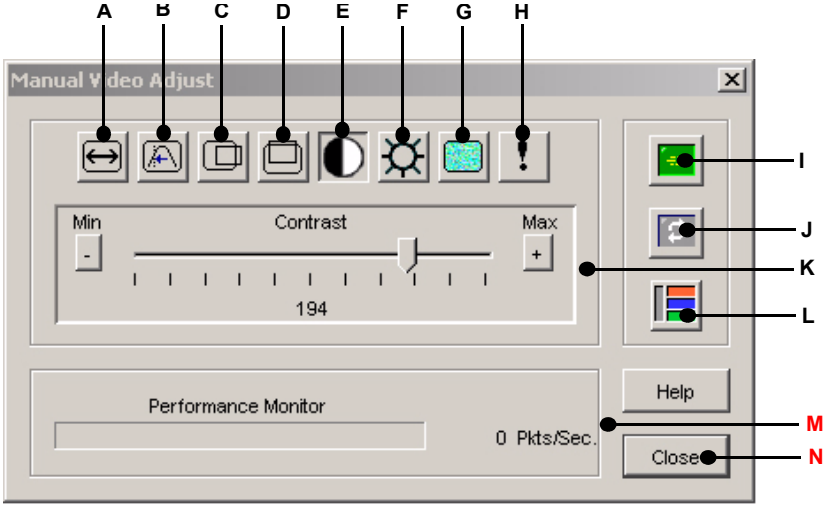


Figure 6.2: Manual Video Adjust Dialog Box

Table 6.2: Manual VIdeo Adjust Dialog Box Descriptions

Letter	Description	Letter	Description
A	Image Capture Width	**H**	Pixel Noise Threshold
B	Pixel Sampling/Fine Adjust	**I**	Automatic Video Adjustment
C	Image Capture Horizontal Position	**J**	Refresh Image
D	Image Capture Vertical Position	**K**	Adjustment bar
E	Contrast	**L**	Video Test Pattern
F	Brightness	**M**	Performance Monitor
G	Block Noise Threshold	**N**	Close button

The following sections describe the effects of the video adjustments.

Image Capture Width, Pixel Sampling/Fine Adjust, Image Capture Horizontal Position and Image Capture Vertical Position

The Image Capture Width, Pixel Sampling/Fine Adjust, Image Capture Horizontal Position and Image Capture Vertical Position adjustments affect how the target video is captured and digitized and are seldom changed.

The image capture parameters are automatically changed by the Automatic Adjustment function. A special image is required on the target in order to make accurate adjustments independently.

Contrast and Brightness

If the image in the Video Viewer window is too dark or too light, select *Tools - Automatic Video Adjust* or click the *Automatic Video Adjust button* first. This command is also available in the Video Adjustments dialog box. In most cases, this will correct video problems. In those cases where clicking on Auto Adjust several times does not set the contrast and brightness as desired, adjusting the contrast and brightness manually may help.

First increase the brightness. Do not go more that 10 increments before moving the contrast. Generally the contrast should be moved very little.

Detection thresholds

In some cases, noise in the video transmission keeps the packets/sec count up. This may be seen when little dots change in the area of the cursor when it is moved. Varying the threshold values may result in “quieter” screens and improved cursor tracking.

Noise Threshold and Priority Threshold values may be modified if you are using standard video compression. Block Noise Threshold and Pixel Noise Threshold values may be modified if you are using the DSR switch DVC algorithm upgrade. Default threshold values can be restored by clicking *Auto Adjust Video*.

Block Noise Threshold and Pixel Noise Threshold

The Block Noise Threshold and Pixel Noise Threshold values set the minimum color levels in terms of changed video blocks and pixels per thousand that are allowed. See *Adjusting the View* on page 249 for information on changing the color depth of a Video Viewer window. The thresholds are described below:

- The Block Noise Threshold sets the minimum color change that will occur in a single video block. Increasing the value will reduce the network bandwidth. Decreasing the value will make the size of these artifacts smaller.
- The Pixel Noise Threshold sets the minimum color change in a single pixel. Decreasing the value will reduce the number of low-contrast artifacts, but will increase network bandwidth.

Automatic Video Adjustment

NOTE: You may also select *Tools - Automatic Video Adjust* from the Video Viewer window menu or click the *Automatic Video Adjust* toolbar icon to automatically adjust the video.

In most cases, you will not need to alter the Video Settings from the default. The system will automatically adjust and use the optimal video parameters. The DSView software performs best when the video parameters are set such that no (Ø) video packets are transmitted for a static screen.

You may easily adjust your video parameters by clicking on the *Auto Adjust Video* button in the Manual Video Adjust dialog box, which instructs the DSR switch to optimize the video to ideal settings.

NOTE: A green screen with yellow lettering may appear during auto-adjustment.

Refresh Image

NOTE: You may also select *View - Refresh* from the Video Viewer window menu to refresh the image.

Clicking the *Refresh Image* button in the Manual Video Adjust dialog box will completely regenerate the digitized video image.

Video Test Pattern

Clicking the *Video Test Pattern* button in the Manual Video Adjust dialog box will toggle a display of a video test pattern. Click the *Video Test Pattern* button again to toggle back to a normal video image.

Adjusting Mouse Options

The Video Viewer window mouse options affect cursor type, cursor mode, scaling, alignment and resetting. Mouse settings are device-specific; that is, they may be set differently for each device.

NOTE: If the device does not support the ability to disconnect and reconnect the mouse (almost all newer PCs do), then the mouse will become disabled and the device will have to be rebooted.

Cursor type

The Video Viewer window offers five appearance choices for the local mouse cursor. You may also choose no cursor or the default cursor.

Single Cursor mode

In Single Cursor mode, the display of the local (second) cursor in the Video Viewer window is turned off and only the target device mouse pointer will be visible. The only mouse movements that will appear are those of the target device remote cursor. Single Cursor mode is used when there is no need for a local cursor.

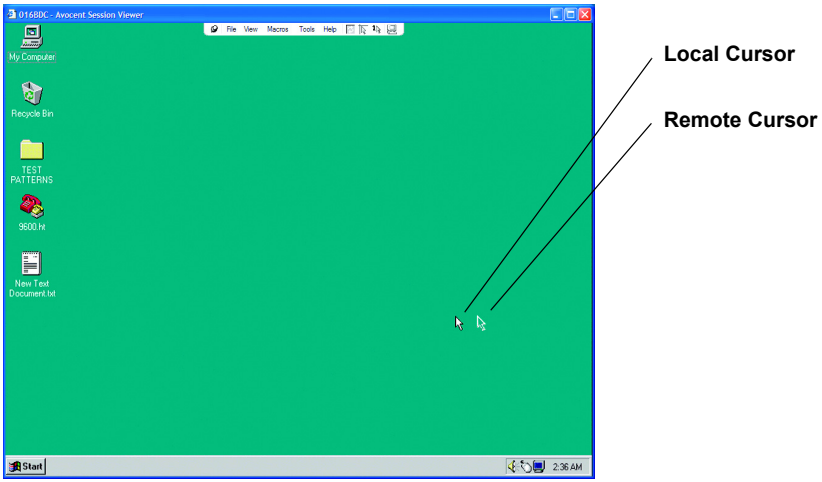


Figure 6.3: Video Viewer Window with Local and Remote Cursors Displayed

The cursor mode status of the Video Viewer window displays in the title bar, including the keystroke that will exit Single Cursor mode. You may define the keystroke that will exit Single Cursor mode in the Session Options dialog box.

NOTE: When using a device that captures keystrokes before they reach the Client, you should avoid using those keys to restore the mouse pointer.

To enter Single Cursor mode:

Select *Tools* - *Single Cursor Mode*. The local cursor will not appear and all movements will be relative to the target device.

-or-

Click the *Single Cursor Mode* button.

To select a key for exiting Single Cursor mode:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. Select a terminating keystroke from the drop-down menu in the Single Cursor mode area.
4. Click *OK*. When you enable Single Cursor mode, the specified key may be pressed to return to Regular Desktop mode.

To exit Single Cursor mode:

Press the key on the keyboard that is identified in the title bar.

Cursor settings

When using the DSView software, your mouse pointer will change shape when over a Video Viewer window. You may change the appearance of this second local cursor or eliminate it from within the DSView software.

Scaling

You may choose among three preconfigured mouse scaling options or set your own custom scaling. The preconfigured settings are: Default (1:1), High (2:1) or Low (1:2), as follows:

- In a 1:1 scaling ratio, every mouse movement on the desktop window will send an equivalent mouse movement to the server.
- In a 2:1 scaling ratio, the same mouse movement will send a 2X mouse movement.
- In a 1:2 scaling ratio, the value will be 1/2X.

Alignment

Because the DSView software cannot get constant feedback from the mouse, there are times when the mouse on the DSR switch may lose sync with the mouse on the host system. If your mouse or keyboard no longer responds properly, you may align the mouse to re-establish proper tracking.

Alignment causes the local cursor to be aligned with the cursor on the remote server. Resetting causes the appliance to simulate a mouse and keyboard reconnect at the device as if you had disconnected and then reconnected them.

To change the mouse cursor setting:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. Select a mouse cursor type in the Local Cursor panel.
4. Click *OK*.

To set mouse scaling:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. To use one of the preconfigured settings, check the appropriate radio button.
4. To set custom scaling, click the *Custom* radio button. The X and Y fields become enabled. Type a mouse scaling value in the X and Y fields. For every mouse input, the mouse movements are multiplied by the respective X and Y scaling factors. Valid input ranges are 0.25-3.00.

To realign the mouse:

Click the *Align Local Cursor* button in the Video Viewer window toolbar.

Using Scan Mode

When the checkboxes of two or more target devices are selected in the DSView 3.0 Explorer, the Scan button will become available. If the Scan button is clicked, Scan mode will be started and the Video Viewer windows will appear in the Thumbnail Viewer. A series of thumbnail frames appear in the Thumbnail Viewer, each containing a small, scaled, non-interactive version of a target device screen image.

The Scan mode moves from one thumbnail image to the next, logging into a device and displaying an updated device image for a specified length of time (View Time Per Server), before logging out of that device and moving on to the next thumbnail image. You may also specify a scan delay between thumbnails (Time Between Server). During the delay, you will see the last thumbnail image for all devices in the scan sequence, though you won't be logged into any devices.

When you first launch the Thumbnail Viewer, each frame will be filled with a white background until a device image is displayed. An indicator light at the bottom of each frame displays the device status. The default thumbnail size is based on the number of devices in the scan list.

Scan mode has a lower priority than an active connection. If you or another DSView user are connected to a device, that device will be skipped in the scan sequence, and Scan mode will proceed to the next device unless the Shared Connections Automatically option has been selected, in which case target devices may be shared and will not be skipped in the scan sequence. No login error messages will appear. After your interactive session is closed, the thumbnail will be included in the scan sequence again.

You may disable a device thumbnail from the scan sequence. The thumbnail image remains, but it is not updated until it is once again enabled.

When running Scan Mode, it is recommended that the following audit log events (enabled by default) are disabled in the DSView system:

- Appliance Change Of State
- Appliance Viewer Session Started
- Appliance Viewer Session Stopped
- Viewer Session Started
- Viewer Session Stopped

Each thumbnail scan will result in the logging of the above audit log events. The audit log could grow to a huge size if the events are enabled and Scan Mode is left running continuously for a length amount of time.

Thumbnail Viewer features

Figure 6.4 shows the Thumbnail Viewer areas, and descriptions follow in Table 6.3.

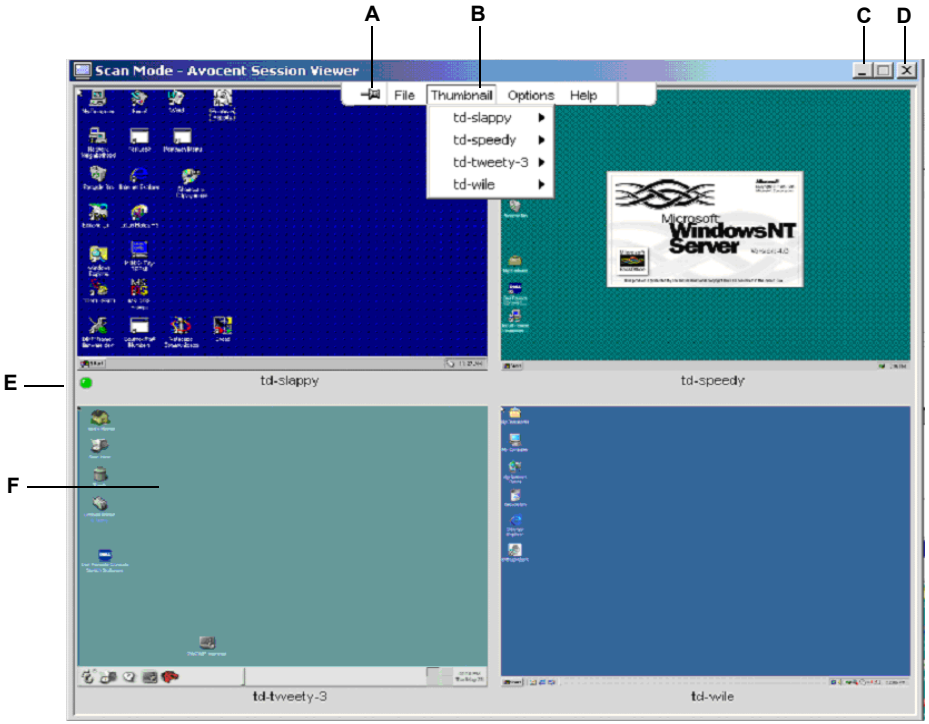


Figure 6.4: Thumbnail Viewer

Table 6.3: Thumbnail Viewer Descriptions

Letter	Description
A	Thumbtack - Locks the view of the menu so that it is visible at all times.
B	Menu: Allows you to access the features in the Thumbnail Viewer. The menu will be in a show/hide state if the thumbtack has not been used. Place your cursor over the toolbar to display the menu.
C	Minimize button: Minimizes the display of the Thumbnail Viewer window into the toolbar at the bottom of the local computer.
D	Close button: Closes the Thumbnail Viewer and all thumbnails being viewed.

Table 6.3: Thumbnail Viewer Descriptions (Continued)

Letter	Description
E	Status indicator: The device name and status indicator appear below each thumbnail as follows: • A green LED indicates that a device is currently being scanned. • A red X indicates that the last scan of the device was not successful. The scan may have failed due to a credential or path failure (for example, the device path on the appliance was not available). The tool tip for the LED indicates the reason for the failure.
F	Thumbnail image: Interacts with your device through this window.

NOTE: The Close button may not be present on all operating systems.

Performing Thumbnail Viewer tasks

To set scan preferences:

1. Select *Options* - *Preferences* from the Thumbnail Viewer menu. The Scan Mode Preferences dialog box appears.
2. In the View Time Per Server field, enter the time each thumbnail will be active during the scan, in the range 5-60 seconds.
3. In the Time Between Server field, enter the time the scan will stop between each device, in the range 1-60 seconds.
4. Click *OK*.

To pause or restart a scan sequence:

Select *Options* - *Pause Scan* from the Thumbnail Viewer menu. The scan sequence will pause at the current thumbnail if the Thumbnail Viewer has a scan in progress or will restart the scan if currently paused.

To change the thumbnail size:

Select *Options* - *Thumbnail Size* from the Thumbnail Viewer menu. Choose the desired thumbnail size from the cascade menu.

To disable a device thumbnail in the scan sequence:

Select a device thumbnail. Select *Thumbnail* - *<device name>* - *Disable* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *Disable* from the pop-up menu.

Updating of that thumbnail image will stop until it is enabled.

To enable a device thumbnail in the scan sequence:

Select a device thumbnail. Select *Thumbnail* - <*device name*> - *Enable* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *Enable* from the pop-up menu.

Updating of that thumbnail image will resume.

To launch a session to a device from the Thumbnail Viewer:

Select a device thumbnail. Select *Thumbnail* - <*device name*> - *View Interactive Session* from the Thumbnail Viewer menu.

-or-

Right-click on a device thumbnail and select *View Interactive Session* from the Thumbnail Viewer menu. That target device desktop will appear in a Video Viewer window.

-or-

Double-click on the thumbnail image.

To exit the Thumbnail Viewer:

Select *File* - *Exit*.

-or-

Click the *Close* button.

Using Keyboard Pass-through

Keystrokes that a DSView user enters when using a Video Viewer window may be interpreted in two ways, depending on the screen mode of the Video Viewer window.

If a Video Viewer window is using Full Screen mode, all keystrokes and keyboard combinations except **Ctrl-Alt-Del** are sent to the remote server being viewed. If a Video Viewer window is using Regular Desktop mode, Keyboard Pass-through mode may be used to control whether the remote server or local computer will recognize certain keystrokes or keystroke combinations.

Keyboard pass-through must be specified using the Session Options dialog box. When enabled, keyboard pass-through will send all keystrokes and keystroke combinations except **Ctrl-Alt-Del** to the remote server being viewed when the Video Viewer window is active. When the local desktop is active, keystrokes and keystroke combinations entered by the DSView user affect the local computer.

NOTE: The **Ctrl-Alt-Delete** keyboard combination can only be sent to a remote server by using a macro. See *Using Global and Personal Macros* in the following section for more information.

NOTE: The Japanese keyboard **ALT-Han/Zen** keystroke combination is always sent to a remote server, regardless of the screen mode or keyboard pass-through setting.

To specify keyboard pass-through:

1. Select *Tools* - *Session Options* from the Video Viewer window menu.

   -or-

   Click the *Session Options* button.

   The Session Options dialog box appears.
2. Click the *General* tab.
3. Select *Pass-through all keystrokes in regular window mode*.
4. Click *OK*.

Using Global and Personal Macros

NOTE: Macros may not be created, edited, copied or deleted if the DSR Remote Operations software is being used to connect to the DSR appliance viewing the target device. See *DSR Remote Operations Software* on page 433 for more information.

NOTE: You must have Appliance Administrator privileges to create and modify Global Macros. See *User Groups* on page 19 for more information.

Three kinds of macros are available in the DSView software. Exit Macros are created within the DSView 3.0 Explorer for use by and reside on DSR switches. See *Defining exit macros* on page 200 for more information.

The other two kinds, Global Macros and Personal Macros, are created and used by the Video Viewer. Global Macros are created and maintained by DSView users with Administrative privileges and are stored on the hub server and any specified spoke servers. See *Viewing and modifying session settings on DSR switches or CPS appliances* on page 194 for more information on Global Macros.

NOTE: Global and Personal macros may also be created in the Telnet/SSH applet window. Macros created using the Telnet/SSH applet window are not compatible with the Video Viewer and may only be used with target devices connected to CPS appliances.

Personal Macros are created by a DSView user for their own use and are accessed on the local computer using the Video Viewer window. Personal Macros may be customized and grouped in any manner you wish with the exception of being included in a Global Macro group.

When a session is started in the DSView software, Global and Personal Macros are retrieved from the DSView Server. Then, when a Video Viewer window session is started, the macros are loaded. A DSView user may choose to use either Personal Macros or Global Macros and switch between using them at any time during the session.

Both Personal and Global Macros may be added to the Video Viewer window toolbar by assigning an icon to them using the Toolbar tab on the Session Options dialog box. A DSView user may then execute the macro by clicking the button on the toolbar. See *Modifying the toolbar* on page 247 for more information.

The Video Viewer window macro function allows you to:

- Send multiple keystrokes to a device, including keystrokes that you cannot generate without affecting your local system, such as **Ctrl-Alt-Delete**.
- Send a macro from a predefined macro group. Macro groups for Windows, Novell and Sun are already defined.
- Create, edit and delete your own macros. When you create or edit a macro, you may type the desired keystrokes or you may select from among several available categories of keystrokes. Each category contains a set of keystroke combinations. Selecting from the available categories and keystrokes saves time and eliminates the risk of typographical errors.

Since the DSView management software may be used to access different computer platforms, DSView users may find it helpful to assign distinct macro groups to Global Macros or Personal Macros on individual systems. You may group macros by selecting the *Macros* - *Configure* - *Macro Groups* command in the Video Viewer window and specifying the macro group to display in the Macro Groups dialog box.

The Macro Groups dialog box may also be used to switch between using Global and Personal Macros at any time during a session.

The Video Viewer window contains grouping commands that allow you to:

- Create, edit and delete your own macro groups. A DSView user with DSView Administrator or User Administrator privileges may also modify the predefined macro groups.
- Change the macro group that displays by default. This causes the macros in the specified group to be available on the Macros menu.

Macro group settings are device-specific; that is, they may be set differently for each device.

NOTE: Exit Macros, which reside on and are used by a DSR switch, may also be created. See *Defining exit macros* on page 200 for more information.

To send a macro:

1. Select *Macros* - <*desired macro*> from the Video Viewer window menu.

   -or-

   Select *Macros* - *Configure* - *Macros* from the Video Viewer window menu.

NOTE: The Macros - Configure - Macros menu item is not available if you are using the DSR Remote Operations Software.

   -or-

   Click the *Macros* button.

   The Macros dialog box appears.

2. Select one of the following:
   - Select *All* to view both personal and global macros.
   - Select *Personal* to view personal macros only.
   - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Macros list and then click *Run*.
4. Click *Close* when you are finished to dismiss the dialog box.

To create or edit a macro:

NOTE: Macros cannot be created or edited if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macros* from the Video Viewer window menu.

   -or-

   Click the *Macros* button.

   The Macros dialog box appears.
2. To create a macro, click *Create*.

   -or-

   To edit a macro, click *Edit*.

   The Create Macro or Edit Macro dialog box appears.
3. If you are creating a macro, type a 1-32 character name in the Macro Name field.
4. Select whether you wish to edit or create a personal or global macro from the Macro Type area.
5. Select the type of keyboard you wish to use to create or edit the macro from the Keyboard Type drop-down menu. Available keyboard types are:
   - U.S. English
   - Dutch
   - Danish
   - German
   - French
   - Italian
   - Spanish
   - Japanese
   - Select an icon to associate with the macro from the Macro Icon drop-down menu.
6. To build the macro, click on the keys on the virtual keyboard in the dialog box that you wish to use to create the macro. The keys of the virtual keyboard operate like a physical keyboard. As a key is clicked, it will appear in the Keystrokes list box to the left of the keyboard.

   You may type or use the arrow keys to specify a delay between keys. First, click the key in the list box after which you wish to place a delay. Next, click *Delay* to insert the delay in the list box.

Keystrokes unique to Sun keyboards may be added to the macro by selecting the key type from the drop-down menu to the right of the Sun Key button and clicking the button.

7. If necessary, use the following keys to modify the entries in the Keystrokes list box:
   - Click *Reset* to remove all entries from the list box.
   - Click on an entry and click *Remove* to remove it from the list box.
   - Click on an entry and click *Move Up* to promote the entry in the list box.
   - Click on an entry and click *Move Down* to demote the entry in the list box.
8. Click *OK* to accept the changes and return to the Macros dialog box.

   -or-

   Click *Cancel* to exit the Macros dialog box without saving your changes.

To delete a macro:

NOTE: Macros cannot be deleted if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macros* from the Video Viewer window menu.

   -or-

   Click the *Macros* button.

   The Macros dialog box appears.
2. Select one of the following:

- Select *All* to view both personal and global macros.
- Select *Personal* to view personal macros only.
- Select *Global* to view global macros only.

3. Select the desired macro from the Defined Macros list and then click *Delete*. You are prompted to confirm the deletion.
4. Click *Yes* to confirm the deletion.

   -or-

   Click *No* to cancel the deletion.
5. Click *Close* to exit the Macros dialog box.

To copy a macro:

NOTE: Macros cannot be copied if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macros* from the Video Viewer window menu.

   -or-

   Click the *Macros* button.

   The Macros dialog box appears.

2. Select one of the following:
   - Select *All* to view both personal and global macros.
   - Select *Personal* to view personal macros only.
   - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Macros list and then click *Copy*. The Copy Macro dialog box will appear.
4. Type a 1-32 character name in the Name of copied macro field.
5. Select whether you wish to make the copied macro a personal or global macro from the Macro Type area.
6. Click *OK* to copy the macro. The Copy Macro dialog box is dismissed and the copied macro will appear in the Macros dialog box.

   -or-

   Click *Cancel* to cancel the action.
7. Click *Close* to exit the Macros dialog box.

To create a macro group:

NOTE: Macro groups cannot be created if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macro Groups dialog box appears.
2. Click *Create*. The Create/Edit Macro Group dialog box will appear.
3. In the Macro Group Name field, enter a 1-32 character unique macro group name.
4. In the Group Type area, click *Global* if you wish to create a global macro group.

   -or-

   Click *Personal* if you wish to create a personal macro group.
5. Click *OK* to save the name and return to the Macro Groups dialog box.

   -or-

   Click *Cancel* to leave the dialog box without saving changes.
6. Click *Close* to exit the Macro Groups dialog box.

To add or delete macros in an existing macro group:

NOTE: Macros cannot be added to or deleted from macro groups if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macros Groups dialog box appears.
2. Select one of the following:
   - Select *All* to view both personal and global macro groups.
   - Select *Personal* to view personal macro groups only.
   - Select *Global* to view global macro groups only.
3. Select the macro group to be altered from the Defined Groups list box. Windows and Sun are the default macro groups. If you have created new groups, they will also be displayed.
4. Click *Edit*. The Create/Edit Macro Groups dialog box will appear.
5. If you are editing a personal macro group, select one of the following from the View area:

- Select *All* to view both personal and global macros.
- Select *Personal* to view personal macros only.
- Select *Global* to view global macros only.

6. To add macros to the group, select the macro to add from the Macros Available list. Click the *Add* button. The macro moves to the Macros in Group list. Use the *Move Up* and *Move Down* buttons to move the macro up or down in relation to the other macros.
7. To remove macros from the group, select the macro to delete from the Macros in Group list. Click the *Remove* button. The macro moves to the Macros Available list.
8. Repeat steps 6 and 7 until the Macros in Group list contains all the desired macros.
9. Click *OK* to accept the macro group and return to the Macro Groups dialog box.

   -or-

   Click *Cancel* to leave the dialog box without saving changes.
10. Click *Close* to exit the Macro Groups dialog box.

To rename a macro group:

NOTE: Macro groups cannot be renamed if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macro Groups dialog box appears.

2. Select one of the following:
   - Select *All* to view both personal and global macro groups.
   - Select *Personal* to view personal macro groups only.
   - Select *Global* to view global macro groups only.
3. Select the macro group to be altered from the Defined Groups list box. Windows and Sun are the default macro groups. If you have created new groups, they will also be displayed.
4. Click *Edit*. The Create/Edit Macro Groups dialog box will appear.
5. In the Macro Group Name field, enter a 1-32 character unique macro group name.
6. Click *OK* to save the name and return to the Macro Groups dialog box.

   -or-

   Click *Cancel* to leave the dialog box without saving changes.
7. Click *Close* to exit the Macro Groups dialog box.

To delete a macro group:

NOTE: Macro groups cannot be deleted if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macro Groups dialog box appears.
2. Select one of the following:
   - Select *All* to view both personal and global macro groups.
   - Select *Personal* to view personal macro groups only.
   - Select *Global* to view global macro groups only.
3. Select the macro group to be deleted from the Defined Groups list box.
4. Click the *Delete* button. You are prompted to confirm the deletion.
5. Click *Yes* to confirm the deletion.

   -or-

   Click *No* to cancel the deletion.
6. Click *Close* to exit the Macro Groups dialog box.

To copy a macro group:

NOTE: Macro groups cannot be copied if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macro Groups dialog box appears.
2. Select one of the following:
   - Select *All* to view both personal and global macros.
   - Select *Personal* to view personal macros only.
   - Select *Global* to view global macros only.
3. Select the desired macro from the Defined Groups list and then click *Copy.* The Copy Macro Group dialog box will appear.
4. Type a 1-32 character name in the Name of copied macro group field.
5. Select whether you wish to make the copied macro group a personal or global macro from the Macro Type area.
6. Click *OK* to copy the macro group. The Copy Macro Group dialog box is dismissed and the copied macro group will appear in the Macro Groups dialog box.

   -or-

   Click *Cancel* to cancel the action.
7. Click *Close* to exit the Macro Groups dialog box.

To change the macro group to be displayed on in the Macros menu:

NOTE: The macro group displayed on the Macros menu cannot be changed if you are using the DSR Remote Operations Software.

1. Select *Macros* - *Configure* - *Macro Groups* from the Video Viewer window menu.

   -or-

   Click the *Macro Groups* button.

   The Macro Groups dialog box appears.
2. Select one of the following:
   - Select *All* to view both personal and global macro groups.
   - Select *Personal* to view personal macro groups only.
   - Select *Global* to view global macro groups only.
3. Select the macro group to be display from the Defined Groups list box.

4. Select *Display on Menu* if you wish for the macro group to appear in the Macros menu.
5. Click *Close* to exit the Macro Groups dialog box.

Macros in the selected group will appear in the Video Viewer window Macros menu.

To display a macro group:

NOTE: Macro groups cannot be displayed if you are using the DSR Remote Operations Software.

Select *Macros - Display on Menu* and select one of the following macro groups:

- Sun
- WIndows

Power Controlling Target Devices

NOTE: You must have Appliance Administrator privileges to use the Tools - Power Control command. See *User Groups* on page 19 for more information.

If a target device is connected to an SPC device outlet, you may power up, power down or cycle (power up and then power down) the target device using the Power Control dialog box.

To power up a target device:

1. Select *Tools - Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power On the Server* button. A warning dialog box will appear.
3. Click *OK* to power up the target device.

   -or-

   Click *No* to cancel the command.
4. Click *Close* to dismiss the dialog box.

To power down a target device:

1. Select *Tools - Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power Off the Server* button. A warning dialog box will appear.
3. Click *OK* to power down the target device.

   -or-

   Click *No* to cancel the command.
4. Click *Close* to dismiss the dialog box.

To power cycle a target device:

1. Select *Tools* - *Power Control* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click the *Power Cycle the Server* button. A warning dialog box will appear.
3. Click *OK* to power cycle the target device.

   -or-

   Click *No* to cancel the command.
4. Click *Close* to dismiss the dialog box.

Displaying Video Viewer Window Users

NOTE: This command is not available if the DSR Remote Operations software is being used to connect to the DSR appliance viewing the target device. See *DSR Remote Operations Software* on page 433 for more information.

You may use the *View* - *Connected Users* command or click the *Connected Users* button to view the current users connected to a Video Viewer window session.

To view current Video Viewer window users:

1. Select *View* - *Connected Users* from the Video Viewer window menu.

   -or-

   Click the *Connected Users* button.

   The Users Connected to <device - Video Session number> dialog box appears, containing a list of all users connected to the Video Viewer window session.
2. Click *OK* to close the dialog box.

Saving the View

The display of a Video Viewer window may be saved to either a file or to the clipboard for pasting into a word processing or other program.

To capture the Video Viewer window to a file:

1. Select *File* - *Capture to File* from the Video Viewer window menu.

   -or-

   Click the *Capture to File* button.

   The Save As dialog box appears.
2. Enter a filename and choose a location to save the file.
3. Click *Save*.

To capture the Video Viewer window to your clipboard:

Select *File* - *Capture to Clipboard* from the Video Viewer window menu.

-or-

Click the *Capture to Clipboard* button.

The image data is saved to the clipboard.

Closing a Video Viewer Window Session

To close a Video Viewer window session:

Select *File* - *Exit* from the Video Viewer window.

CHAPTER 7

Using the Telnet/SSH Applet

About the Telnet/SSH Applet

The DSView 3.0 management software ships bundled with a built-in proprietary Telnet/SSH applet that provides features unavailable in many other Telnet programs. These features include configurable session properties tailored for each device, and configurable user preferences for all sessions.

Additionally, the DSView software Telnet/SSH applet offers a separate History mode to review session data, a choice of connection modes to a CPS serial over IP network appliances and generic appliances, a scripting function for automatic device login and a logging function for saving session data to a file.

DSView Clients may use the DSView software Telnet/SSH applet to access CPS810 or CPS1610 appliance or their ports, or any generic appliance that supports Telnet/SSH applet connections.

The Telnet/SSH applet uses the credentials provided by the DSView software to establish a session and will automatically accept the CPS appliance server key. When the Common Telnet Viewer is launched, the DSView software displays the Telnet/SSH applet window. The username and password provided by the DSView user when they log in are authenticated by the authentication service configured in the DSView software.

Telnet/SSH Applet Features

A new Telnet/SSH applet window will appear for each new Telnet/SSH session established by a DSView user. The Telnet/SSH applet window contains commands and a window that provides virtual terminal emulation. Figure 7.1 shows the Telnet/SSH applet and descriptions follow in Table 7.1.

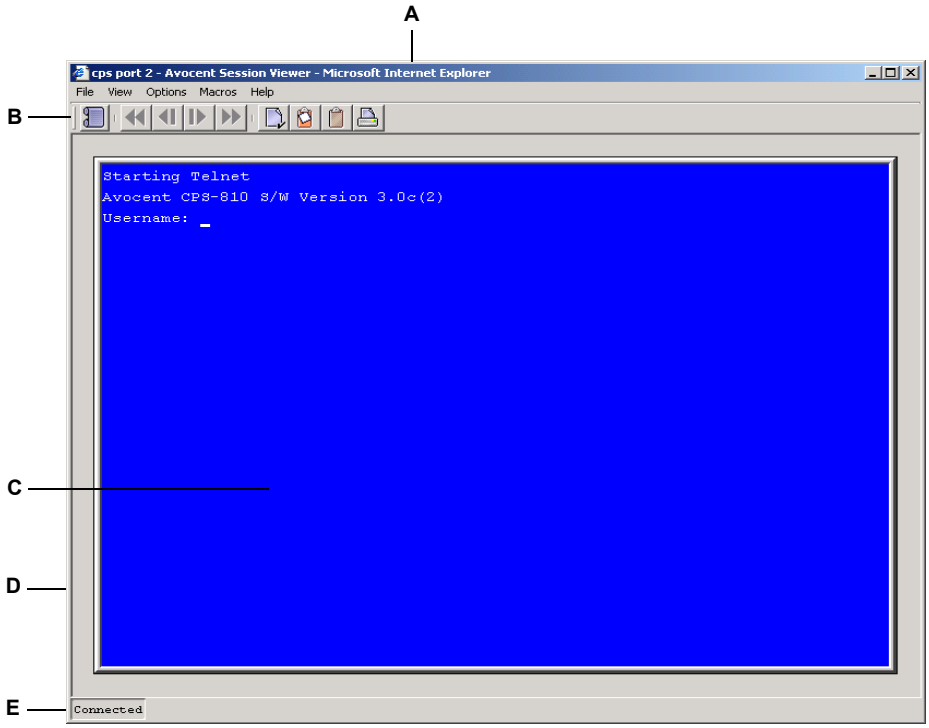


Figure 7.1: Telnet/SSH Applet Window

Table 7.1: Telnet/SSH Applet Window Descriptions

Letter	Description
A	Title Bar - Displays the name of the target device being viewed.
B	Toolbar: Allows you to access many of the features in the Telnet/SSH applet. See Table 7.2 for a description of the toolbar icons.
C	Virtual Terminal window: Interacts with your target device through this window. By default the window size is 80 characters x 24 lines.
D	Applet window: Click and hold on the frame to resize the window. Although the window may be resized, the Virtual Terminal window will remain the same size.

Table 7.1: Telnet/SSH Applet Window Descriptions (Continued)

Letter	Description
E	Status Bar: Displays one of the following: • Connected - Displays during normal terminal emulation in a Telnet/SSH applet session • ESC to return to Terminal mode - Displays when the Telnet/SSH applet screen is in History mode • Logging - Displays when logging is enabled • Logging Paused - Displays when logging is paused

NOTE: The Close button may not be present on all operating systems.

See the DSR Installer/User Guide for information about how the keys on a standard Type 5 Sun keyboard are emulated on a PS/2 keyboard.

Telnet/SSH applet window toolbar

Table 7.2 lists the icons available on the Telnet/SSH applet window toolbar:

Table 7.2: Telnet/SSH Applet Window Toolbar Icons

Icon	Description
	History - Enables and disables History mode
	Double-left Icon - Moves to the beginning of the history buffer (oldest data) when History mode is enabled
	Left-arrow-and-bar - Moves back one page in the history buffer when History mode is enabled
	Right-arrow-and-bar - Moves forward one page in the history buffer when History mode is enabled
	Double-right Icon - Moves to the end of the history buffer (newest data) when History mode is enabled
	Session Settings - Displays the Session Properties dialog box
	Help - Displays the DSView software help
	Copy Screen - Copies a screen of Telnet/SSH applet session data to the system clipboard or, if History mode is enabled, a screen of Telnet/SSH applet history buffer contents to the system clipboard

Table 7.2: Telnet/SSH Applet Window Toolbar Icons (Continued)

Icon	Description
	Paste - Pastes the contents of the system clipboard into a DSView software Telnet/SSH applet session
	Print a screen of Telnet/SSH applet session data or, if History mode is enabled, a screen of Telnet/SSH applet session history data

Security Property

A fully functional SSH2 (Secure Shell Version 2) Client is built into the Telnet/SSH applet. The SSH2 Client is Java-based and provides a secure method for accessing target devices.

The Telnet/SSH applet provides the following security features:

- Strict host key checking
- Support ciphers for AES (128-, 192-, 256-bit), Blowfish, Twofish, Cast, 3DES and Arcfour
- Diffie-Hellman key exchange support
- SSH-RSA key types
- Supported for hmac-md5, hmac-sha1, hmac-sha1-96, hmac-md5-96 and hmac-ripemd160

The DSView software will determine whether to create a Telnet or SSH2 connection when you start a session with a CPS or generic appliance. A serial connection provides SSH2 serial access to the target device from the CPS appliance. Terminal emulation options are supported using both types of connections.

The SSH2 Client is started when you initiate a session with a CPS appliance port from the DSView 3.0 Explorer. The DSView Server is contacted, which in turn contacts the target device connected to the CPS appliance port and exchanges X.509 certificates with the target device. The target device also supplies a session certificate, private key and CPS appliance certificate.

These certificates are then passed back to the SSH2 Client, which uses them to determine the SSH2 host key and the DSView user SSH2 key. The Telnet/SSH applet will then establish a session with the target device (or through the proxy server if there is a proxy server connection). The Telnet/SSH applet then passes the RSA public key from the session certificate when establishing the SSH connection. Finally, the Virtual Terminal window will open using an SSH2 Shell over SSH connection.

SSH2 settings may be viewed by clicking on a CPS appliance name in the DSView 3.0 Explorer and selecting *Appliance Settings* - *Sessions* - *Settings* in the side navigation bar to display the Properties - Sessions - Settings window.

Opening a Session

A DSView software Telnet/SSH applet session is opened using the DSView 3.0 Explorer by clicking on *Telnet Session* or *Serial Session* in the Action column of the target device. If the target device is attached to a CPS appliance or generic appliance port, Telnet Session will appear. If the target device is attached to a CPS appliance or generic appliance that is also attached to a serial device, Serial Session will appear.

To open a Telnet/SSH applet session:

1. From the DSView 3.0 Explorer, click the *Units* tab. *Units* is automatically selected in the top navigation bar and *Unit Views* is automatically selected in the side navigation bar.
2. From the side navigation bar, click a link to display the Appliances, Units in Site, Units in Custom Field or Recently Accessed Units window.
3. In the Action column for the CPS appliance or generic appliance, click *Telnet Session*. The Telnet/SSH applet window will appear.

   -or-

   In the Action column for the CPS appliance or generic appliance, click *Serial Session*. The Telnet/SSH applet window will appear.

   -or-

   Click on the name of the CPS appliance or generic appliance you wish to view. *Overview* will automatically be selected and the name of the CPS appliance or generic appliance will appear at the top of the side navigation bar. The Overview window will appear. Continue to step 4.

NOTE: If a web browser address was defined when you added the CPS appliance or generic appliance, Browser Session will appear in the Action column and you must use Overview window to open a Telnet/SSH applet window.

4. Click the *Telnet Session* icon or text.

   -or-

   Click the *Serial Session* icon or text.

   The Telnet/SSH applet window will appear.

Customizing the Telnet/SSH Applet

You may specify preferences that will be used for every Telnet/SSH applet session, regardless of the device to which you connect. These application preferences are entered from the Telnet/SSH applet window when you are connected to a device or port. After the preferences are entered, they are applied to devices/ports during subsequent sessions.

Changing Colors

You may change the background color and text color on the DSView software Telnet/SSH applet window at any time.

To change the DSView software Telnet/SSH applet window background color:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors panel, click the *Background/Normal Mode* box, and choose a color. The default value is blue.

To change the DSView software Telnet/SSH applet window text color:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors area, click the *Text/Normal Mode* box, and choose a color. The default value is white.

Changing the Cursor

You may specify whether the cursor (caret) on the Telnet/SSH applet window appears as an underline or as a block.

To change the DSView software Telnet/SSH applet cursor appearance:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Caret list, choose *Block* to display the cursor as a block or choose *Underline* to display the cursor as an underline. The default value is Underline.

Enabling and disabling the exit warning prompt

When the exit warning prompt is enabled, a message appears when you select *Telnet* - *Exit*. You may then choose to exit or continue the session. When disabled, the session closes without further prompting.

To enable/disable an exit warning prompt for DSView software Telnet/SSH applet sessions:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear
2. Enable or disable the *Prompt on Exit* checkbox. The default value is enabled.

Customizing Session Properties

When you are connected to a CPS appliance or generic appliance or port using the DSView software Telnet/SSH applet, you may specify session properties that will be stored and reused every time you connect to the selected CPS appliance or generic appliance or port. When you select *Options* - *Session Properties* in the DSView software Telnet/SSH applet, the Session Properties dialog box will appear containing Terminal, Login Scripts and Logging tabs.

Changing the terminal window size

The Terminal Size lists specify the number of rows and columns to display in the virtual terminal window. These values determine the window height and width.

To change the DSView Telnet terminal window size:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the Rows list, choose a value of *24* or *48*. The default value is 24.
4. In the Columns list, choose a value of *80* or *132*. The default value is 80.

Changing the Terminal Emulation mode

You may set the DSView software Telnet/SSH applet to emulate ASCII, VT100, VT100+, VT102, VT52, VT220 or VT320 terminals, depending on the connected device. *Terminal Emulation* on page 444 contains encoding and decoding information for each of the terminal emulation types.

To change the DSView software Telnet/SSH applet Terminal Emulation mode:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. From the Terminal Emulation list, choose one option: ASCII, VT100, VT100+, VT102, VT52, VT220 or VT320. The default value is VT100.

NOTE: When connecting to a CPS appliance or generic appliance, the terminal type setting must match the terminal emulation type.

Changing Arrow key sequences

When the Terminal Emulation mode is VT100, VT100+, VT102, VT52, VT220 or VT320, you may specify either VT100 or ANSI **Arrow** key sequences. The following table lists the **Arrow** keys and the sequences transmitted for each.

Table 7.3: Arrow Key Sequences

Key	VT100	ANSI	VT52 *
Up Arrow	<Esc> [A	<Esc> OA	<Esc> A
Down Arrow	<Esc> [B	<Esc> OB	<Esc> B
Right Arrow	<Esc> [C	<Esc> OC	<Esc> C
Left Arrow	<Esc> [D	<Esc> OD	<Esc> D

* When the Terminal Emulation mode is VT52, the **Arrow** keys are interpreted as indicated in this column, regardless of the value in the Arrow Keys list.

To change the DSView software Telnet/SSH applet Arrow key sequences:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the Arrow Keys list, choose either *VT100* or *ANSI*. The default value is VT100.

Changing the terminal type

The terminal type is used during Telnet session negotiation. You may change this value at any time.

To change the terminal type:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the Terminal Type box, enter a value of up to 40 characters, beginning with a letter and ending with a letter or digit. Valid characters are the letters A-Z, digits Ø-9, forward slash, dash, left parenthesis and right parenthesis.

NOTE: When you are connected to a CPS appliance or generic appliance, the terminal type must be entered in the Terminal Type field exactly as shown in the following table for each Terminal Emulation mode.

Table 0.1: Terminal Emulation and Type

Terminal Emulation	Terminal Type
VT52	DEC-VT52
VT100	DEC-VT100
VT100+	DEC-VT100
VT102	DEC-VT102
VT220	DEC-VT220
VT320	DEC-VT320

Changing the linefeed settings

When connecting to devices that do not insert a carriage return in incoming or outgoing data, you may instruct the DSView software to automatically insert a line after each line of data. This prevents overwriting data when a new line is received.

To change the linefeed settings:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. If the *New Line Mode* - *Inbound* box is checked, an inbound carriage return from the device will be treated as if both a carriage return and a linefeed were received. If not checked, a linefeed is not added to an inbound carriage return.

If the *New Line Mode* - *Outbound* box is checked, an outbound carriage return to the device will always be followed by a linefeed character. If not checked, a linefeed is not sent with a carriage return. The default value is disabled for inbound and outbound.

Enabling and disabling line wrap

When line wrap is enabled, characters wrap onto the next line when a new character is received and the cursor is at the end of the line. When disabled, new characters will overwrite the last character on the current line when the cursor is at the end of the line.

To enable/disable line wrap:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

Click the *Session Settings* icon in the toolbar.

The Session Properties dialog box will appear.

2. Click the *Terminal* tab.
3. Enable or disable the *Auto wrap line* checkbox. The default value is enabled.

Enabling and disabling local echo

When you are connected to a device that does not repeat or echo the data that you type, you may enable Local Echo mode. Otherwise, the DSView software Telnet/SSH applet will not display the text you type. However, if you are connected to a device that echoes data, and you are in Local Echo mode, all of the data you type will appear on your terminal twice.

To enable/disable local echo:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. Enable or disable the *Local echo* checkbox. The default value is disabled.

Enabling and disabling 7-bit ASCII

When you are connected to a device that requires transmission of 7-bit ASCII, you may instruct the DSView software Telnet/SSH applet to strip the eighth bit of every character that is sent and received.

To enable/disable 7-bit ASCII:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. Enable or disable the *Strip 8th bit* checkbox. The default value is disabled.

Login scripts

The DSView software Telnet/SSH applet has a login scripting function that enables you to automatically log in to a device. A login script is built with a sequence of expect and send strings, and initial transmission characters that work with them. To use a login script, you must enable automatic login in a checkbox.

The first Initial character (that is, the first entry in the Initial character column) specifies what is sent to the device as soon as the Telnet/SSH applet session is established. This is selected from a

list containing the choices: None, CR (carriage return), CR+LF (carriage return and linefeed), ESC (Escape) and CTRL+P (Control and P).

The first Expect string indicates what the device will send as its first prompt.

The first Send string indicates what the login script will send to the device after it receives the first Expect string.

You may then build additional Expect and Send strings according to what the particular device will prompt for and what will be sent in response.

To build a login script and enable/disable automatic login:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Login Scripts* tab.
3. Enable or disable the *Automate login* checkbox. The default value is disabled.
4. In the Initial Character list, select one option: CR (carriage return), CR+LF (carriage return and linefeed), ESC (Escape), CTRL+P (Control+P sequence, 0X10 in hex) or None (no initial transmission character).
5. In the Expect box, type the 1-32 alphanumeric character string that you expect from the device. Spaces are allowed.
6. In the Send box, type the Ø-32 alphanumeric character string that you wish to send in response to the Expect string. Spaces are allowed, and a blank field is valid. A CR or CR+LF is appended to the string, based on the New Line Mode - Outbound setting.
7. Repeat the Expect and Send entries as needed, to a maximum of four each.

Telnet/SSH Applet History Mode

NOTE: To display History mode data in the Telnet/SSH applet window, the History Buffer Control in the Appliance Settings window must be set to *Auto*. See page 198 for more information.

The DSView software Telnet/SSH applet's History mode enables you to view the history of a current DSView software Telnet/SSH applet session. You may navigate to various parts of the history buffer by clicking menu selections or tools, or by pressing **Arrow** keys. You may configure the maximum size of the history buffer, and customize the background and text colors of the History mode display.

While you are in History mode, new incoming data is buffered, but it will not be displayed until you exit History mode. You may not enter outgoing data. The status bar in the lower left area of the display will show *ESC to return to terminal mode*.

To enter the DSView software Telnet/SSH applet's History mode:

Select *View* - *History* from the menu bar.

-or-

Click the *History* icon in the toolbar.

To exit the DSView software Telnet/SSH applet's History mode:

Press the **Esc** key.

-or-

Click the *History* icon in the toolbar.

To go to the beginning of the DSView software Telnet/SSH applet's history:

Select *View* - *Goto Beginning* from the menu bar.

-or-

Click the *double-left-arrow* icon in the toolbar.

To go to the end of the DSView software Telnet/SSH applet's history:

Select *View* - *Goto End* from the menu bar.

-or-

Click the *double-right-arrow* icon in the toolbar.

To move up (back) one page in the DSView software Telnet/SSH applet's history:

Select *View* - *Previous Page* from the menu bar.

-or-

Click the *left-arrow-and-bar* icon in the toolbar.

To move down (forward) one page in the DSView software Telnet/SSH applet's history:

Select *View* - *Next Page* from the menu bar.

-or-

Click the *right-arrow-and-bar* icon in the toolbar.

To move back or forward one line in the DSView software Telnet/SSH applet's history:

Press the *Left Arrow* (for back) or **Right Arrow** (for forward) on your keyboard.

To change the maximum number of lines in the DSView software Telnet/SSH applet's history buffer:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Terminal* tab.
3. In the History Buffer Size box, type a value from 1-1000. The default value is 256.

To change the background color for the DSView software Telnet/SSH applet's History mode:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors panel, click the *Background/History Mode* box and select a color. The default color is dark cyan.

To change the text color for the DSView software Telnet/SSH applet's History mode:

1. Select *Options* - *Preferences* from the menu bar. The Preferences dialog box will appear.
2. In the Colors section, click the *Text/History Mode* box and select a color. The default color is white.

Macros

NOTE: Three additional kinds of macros are available in the DSView software. Exit Macros are created within the DSView 3.0 Explorer for use by and reside on DSR switches. Global Macros and Personal Macros are created using the Video Viewer window and are used with KVM sessions with target devices attached to DSR switches. None of these macros may be used or are compatible with a Telnet/SSH applet.

The DSView software Telnet/SSH applet has a macro function that allows you to create and use macros during Telnet/SSH applet sessions. A macro comprises a series of keystrokes that you define. Additionally, you may specify a hotkey in the macro's definition. When you define a macro and enable its inclusion in the Macros menu, you may execute the macro during a Telnet/SSH applet session either by selecting it from the Macros menu or by pressing the defined hotkey on your keyboard.

You may also define one or more Global Macro or Personal Macro groups, then add macros to the groups. Personal Macro groups may be created by any DSView user and are only available for use on the target device on which they are created. Global Macros may only be created by a DSView Administrator and are available for use by any DSView user on the DSView system.

A macro may belong to more than one macro group or belong to both Personal and Global Macro groups; however, a macro does not have to belong to a macro group. Selecting *Macros* - *Configure* - *Groups* takes you to the Configure Macro Groups dialog box which contains a list of defined

macro groups from which you may select one group or all defined groups. The macros in the selected group(s) are then available for use during subsequent Telnet/SSH applet sessions with that device/port.

After defining a macro or a macro group, you may edit or delete it at any time. When you delete a macro or macro group, you are prompted for confirmation. When you change a macro group name, each macro belonging to the changed macro group is updated, but the change is not visible until the next Telnet/SSH applet session is established. When you delete a macro group, you delete only its name - the individual macros in the group are not affected.

To create a macro:

1. Select *Macros* - *Configure* - *Macros* from the menu bar. The Configure Macros dialog box appears.
2. Click the *Create* button. The Configure Macros dialog box expands to display an Edit Macro area.
3. In the Macro Name field, Type a 1-64 character name for the macro.
4. To define a hotkey for the macro, choose one from the Key list. To add a modifier to the hotkey, check the *Control*, *Shift* or *Alt* boxes.
5. By default, the Include in Menu box is checked, indicating the macro will appear in the Macros menu. If you do not wish to include the macro in the Macros menu, uncheck this box. In this case, if the macro definition includes a hotkey, you will still be able to use the hotkey to run the macro, even if the macro's name does not appear in the Macros menu.
6. Type the macro string in the Keystrokes box. For non-printing and special character code sequences, use the following escape sequences:

   New line: \n

   Carriage return: \r

   Form feed: \f

   Horizontal tab: \t

   Backspace: \b

   Delay character (500 ms): \d

   Hexadecimal code sequence: \Øx<NN>, where <NN> is the hexadecimal byte. For example, the **Ctrl-D** character sequence may be sent by using 0x04.

   Octal code sequence: \Ø<NNN>, where <NNN> is the octal byte. For example, the **Ctrl-D** character sequence may be sent by using 0004.
7. From the Control Code drop-down menu, select the sequence you wish to invoke with the selected characters.
8. In the Access Rights area, specify whether you wish for the macro to be a Global Macro (available to all DSView users) or a Personal Macro (available only to the current DSView user).

NOTE: You must have DSView Administrator privileges to use the Access Rights area.

9. Click *OK*. The Configure Macros dialog box returns to its abbreviated view and the macro appears in the Macros area.
10. Click *OK* to dismiss the Configure Macros dialog box.

To edit an existing macro:

NOTE: You must have DSView Administrator privileges to edit Global Macros.

1. Select *Macros* - *Configure* - *Macros* from the menu bar. The Configure Macros dialog box appears.
2. In the Macros table, select the macro you wish to edit.
3. Click the *Edit* button. The Configure Macros dialog box expands to display an Edit Macro area containing the information defined for the macro.
4. Edit the macro properties as needed.
5. Click *OK*. The changes are saved and the Configure Macros dialog box returns to its abbreviated view.
6. Repeat steps 2-5 to edit additional macros.
7. Click *OK* to dismiss the Configure Macros dialog box.

To delete a macro:

NOTE: You must have DSView Administrator privileges to delete Global Macros.

1. Select *Macros* - *Configure* - *Macros* from the menu bar. The Configure Macros dialog box appears.
2. Select the macro in the Macros table that you wish to delete.
3. Click the *Delete* button. A dialog box appears, prompting you to confirm the deletion.
4. Click *Yes* to confirm the deletion.

   -or-

   Click *No* to cancel the action.

To execute a macro:

1. Select the macro from the Macros menu.

   -or-

   If the macro's definition includes a hotkey, press the hotkey or hotkey sequence.

   -or-

   Select *Macros* - *Configure* - *Macros* from the menu bar.

   The Configure Macros dialog box appears.
2. Select the macro in the Macros table that you wish to run.
3. Click *Run*.

To create a macro group:

1. Select *Macros* - *Configure* - *Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Click the *Create* button. The Configure Macros dialog box expands to display a Create Group area.
3. In the Group Name field, type a 1-64 character name for the macro group.
4. Click *Active Group* if you wish for the group to appear in the Macro Groups table so other DSView users may edit the group.
5. Select the macros you wish to add or remove to or from the macro group.

   To add macros to the macro group:

   - Select the macro you wish to add from the Macros Available list. Multiple macros may be selected by pressing **Ctrl** while clicking on the macro names.
   - Click *Add*. The macros will be moved to the Macros In Group list.

   To remove macros from the macro group:

   - Select the macro you wish to remove from the Macros In Group list. Multiple macros may be selected by pressing **Ctrl** while clicking on the macro names.
   - Click *Remove*. The macros will be moved to the Macros Available list.
6. In the Access Rights area, specify whether you wish for the macro group to be a Global Macro group (available to all DSView users) or a Personal Macro group (available only to the current DSView user).

NOTE: You must have DSView Administrator privileges to use the Access Rights area.

7. Click *OK*. The Configure Macro Groups dialog box returns to its abbreviated view.
8. Click *OK* to dismiss the Configure Macro Groups dialog box.

To enable a macro group for use during Telnet/SSH applet sessions:

NOTE: You must have DSView Administrator privileges to enable a macro group.

1. Select *Macros* - *Configure* - *Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Click the checkbox in the Active column for the macro groups you wish to use.
3. Click *OK* to dismiss the Configure Macro Groups dialog box.

To edit an existing macro group:

NOTE: You must have DSView Administrator privileges to edit Global Macro groups.

1. Select *Macros* - *Configure* - *Macro Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. In the Macro Groups table, select the macro group you wish to edit.

3. Click the *Edit* button. The Configure Macro Groups dialog box expands to display an Edit Group area containing the information defined for the macro.
4. Edit the macro group properties as needed.
5. Click *OK*. The changes are saved and the Configure Macro Groups dialog box returns to its abbreviated view.
6. Repeat steps 2-5 to edit additional macro groups.
7. Click *OK* to dismiss the Configure Macro Groups dialog box.

To delete a macro group:

NOTE: You must have DSView Administrator privileges to delete Global Macro groups.

1. Select *Macros* - *Configure* - *Macro Groups* from the menu bar. The Configure Macro Groups dialog box appears.
2. Select the macro group in the Macro Groups table that you wish to delete.
3. Click the *Delete* button. A dialog box appears, prompting you to confirm the deletion.
4. Click *Yes* to confirm the deletion.

   -or-

   Click *No* to cancel the action.

Logging

The DSView management software Telnet/SSH applet has a logging function that saves the contents of a Telnet/SSH applet session to a file. You may enable automatic logging or dynamically start logging at any time. Additionally, you may pause, resume and stop logging, regardless of whether it was started automatically or dynamically.

While logging is occurring or when it is paused, a Logging Status label appears in the status panel at the bottom of the DSView software Telnet/SSH applet window.

NOTE: When you enable or disable automatic logging, the logging will begin or end at the start of the next DSView software Telnet/SSH applet session to that device. If you change the default log file directory used for automatic logging, the change does not take effect until the next session to that device.

Log files

The format of log filenames is shown below, where <mmddyy> represents the month, day and year, and <hhmmss> represents the current hour, minute and second in military time:

scvTelnet<mmddyy>_<hhmmss>.log

The default log directory is session-specific, that is, each Telnet/SSH applet session may have its own location for storing logfiles. You may change the name of the file and the location of the directory that stores the logfiles. If you do not change the default directory, logfiles are stored in your home directory.

You may view a log file at any time, using a standard text editor. The screen buffer is written to the log file when the buffer is full, or when logging is paused or stopped. To ensure the log file is up-to-date, either pause or stop the logging.

To change the default log file directory:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Select the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Logging* tab. The Default Directory field displays the current default location for logfiles.
3. Click the *Browse* button. The Set Directory dialog box appears.
4. Select a directory from the Look in list.

   -or-

   Create a new directory:

   a. Click the *Create New Folder* button. A new directory named New Folder appears in the directory list.

   b. Click the *New Folder* entry in the directory list to highlight it. Then, click the entry again to edit its name. Type in a new name. Press **Enter**. The directory appears in alphabetical order in the directory list.

   c. Select the newly-created directory in the directory list. The File name field will now contain the name of the new directory.
5. Click the *Set Directory* button to select the newly-created or selected directory as the default log file directory. The Set Directory dialog box will close.
6. The Default Directory field now contains the name of the newly-created or selected directory. Click *OK* to save the new information.

   -or-

   Click *Cancel* to exit the dialog box without saving any new information.

To enable automatic logging:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Logging* tab.
3. Enable the *Logging* checkbox.

4. The Default Directory field displays the current default location for logfiles. If that is the desired directory, click *OK*. If you wish to change the default log file directory, see the *To change the default log directory* section.

Automatic logging will begin when you initiate the next DSView software Telnet/SSH applet session to that device. At that time, the Logging Status label will indicate *Logging*.

To disable automatic logging:

1. Select *Options* - *Session Properties* from the menu bar.

   -or-

   Click the *Session Settings* icon in the toolbar.

   The Session Properties dialog box will appear.
2. Click the *Logging* tab.
3. Disable the *Logging* checkbox.
4. Click *OK*.

Automatic logging will stop when you initiate the next DSView software Telnet/SSH applet session to that device. When logging stops, the Logging Status label disappears.

To start dynamic logging:

1. Select *Options* - *Logging* - *Start* from the menu bar. The Log dialog box appears.
2. The Look in list contains the default log file directory and the File name field contains the default log filename. Using this filename format is recommended; however, you may change it for the duration of this DSView software Telnet/SSH applet session. If you choose to use the default log filename, skip to step 4.
3. To change the default log filename for the duration of the dynamic logging session, you may select a directory from the Look in list. The directory list may contain directories and files. To create a new directory:
   a. Click the *Create New Folder* button. A new directory named New Folder appears in the directory list.
   b. Click the *New Folder* entry in the directory list to highlight it. Then click the entry again to edit its name. Type in a new name. Press **Enter**. The directory appears in alphabetical order in the directory list.
   c. Double-click the newly-created directory in the directory list. The File name field will now contain the name of the new directory.
   d. Type a new filename in the File name field. If you enter a filename that already exists, the new file will overwrite the old file.
4. Click *Log* to confirm the directory selection and begin logging.

   -or-

   Click *Cancel* to exit the dialog box and cancel the request to start logging.

When logging begins, the Logging Status label will indicate *Logging*.

To pause logging:

Select *Options* - *Logging* - *Pause* from the menu bar. The Logging Status label will change to *Logging Paused*.

To resume logging:

Select *Options* - *Logging* - *Resume* from the menu bar. The Logging Status label will change to *Logging*.

To stop logging:

Select *Options* - *Logging* - *Stop* from the menu bar. The Logging Status label will disappear.

Copying, Pasting and Printing Session Data

In the DSView software Telnet/SSH applet you may:

- Copy a screen of the DSView software Telnet/SSH applet session data to the system clipboard
- Copy the DSView software Telnet/SSH applet history buffer contents to the system clipboard
- Paste the contents of the system clipboard into a DSView software Telnet/SSH applet session
- Print a screen of the DSView software Telnet/SSH applet session data
- Print a screen of the DSView software Telnet/SSH applet session history data

Information that is copied from a DSView software Telnet/SSH applet session may be pasted in other applications. Similarly, information copied from other applications may be pasted into a DSView software Telnet/SSH applet session.

NOTE: Only textual data may be copied and pasted in the DSView software Telnet/SSH applet.

To copy a Telnet/SSH applet application window screen:

Select *Options* - *Copy Screen* from the menu bar.

-or-

Click the *Copy Screen* icon in the toolbar.

The screen contents are saved to the system clipboard. You may then paste the clipboard contents into this or another application.

To copy Telnet/SSH applet session history data:

1. Select *View* - *History* from the menu bar.

   -or-

   Click the *History* icon in the toolbar.
2. Select *Options* - *Copy Screen* from the menu bar.

   -or-

   Click the *Copy Screen* icon in the toolbar.

The entire contents of the history buffer are copied to the system clipboard. You may then paste the clipboard contents into this or another application.

NOTE: The entire history buffer is copied to the system clipboard, regardless of the amount of data in it.

To paste system clipboard contents:

1. Place textual data on the system clipboard, using a text editor or other application.
2. Initiate a DSView software Telnet/SSH applet session.
3. At the point where you wish to paste the clipboard contents, select *Options* - *Paste* from the menu bar.

   -or-

   Click the *Paste* icon in the toolbar.

To print a Telnet/SSH applet window screen:

1. Select *Options* - *Print Screen* from the menu bar.

   -or-

   Click the *Print Screen* icon in the toolbar.
2. The operating system's print dialog box appears. Make the appropriate settings. The screen contents will then be sent to the printer.

To print a screen of Telnet/SSH applet window session history data:

1. Select *View* - *History* from the menu bar.

   -or-

   Click the *History* icon in the toolbar.
2. Select *Options* - *Print Screen* from the menu bar.

   -or-

   Click the *Print Screen* icon in the toolbar.
3. The operating system's print dialog box appears. Choose the appropriate settings. The screen contents will then be sent to the printer.

Power Controlling Target Devices (Serial Session Only)

NOTE: A DSView user must have DSView Administrator privileges to control the power of a target device.

If a target device attached to a CPS810 or CPS1610 port is connected to an SPC device outlet and the target device has been accessed in a serial session, you may power up, power down or cycle (power down and then power up) the target device using the Power Control dialog box. The Options - Power menu option will not be available if the target device cannot be power controlled using the DSView software, or if the DSView user does not have power control privileges (specified by selecting *Reboot Appliance* in the Unit Access Rights window).

The current state of the SPC device outlet appears in the Current Power Status area of the dialog box. As you change the power state, the information is updated in real time.

NOTE: Depending on the configuration of an SPC device outlet, an SPC device outlet may not immediately respond to a power change request (for example, an SPC device outlet may be configured to remain off for a specific period of time, and so on).

To power up a target device:

1. Select *Options* - *Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *On*.
3. Click *Close* to dismiss the dialog box.

To power down a target device:

1. Select *Options* - *Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *Off*.
3. Click *Close* to dismiss the dialog box.

To power cycle a target device:

1. Select *Options* - *Power* from the Video Viewer main window. The Power Control dialog box will appear.
2. Click *Cycle*.
3. Click *Close* to dismiss the dialog box.

Closing a Telnet Appliance Session

To close a Telnet/SSH applet session:

Select *File* - *Exit* from the Telnet/SSH applet window.

CHAPTER 8

Grouping

About Grouping

The DSView 3.0 Explorer automatically groups managed appliances (DSR switches, CPS serial over IP network appliance, EVR1500 environmental monitor and control appliances and generic appliances) by the type of appliance (CPS 1610, DSR1021 and so on). Target devices are automatically grouped based on the type to which they are assigned.

You may view the target devices in your DSView 3.0 management software system by clicking *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar, *Target Devices - All* will automatically be selected in the side navigation bar and the Target Devices - All window will appear. You may then click a target device type beneath Target Devices in the side navigation bar to display a Target Devices window containing only target devices of the particular type.

Managed appliances may be displayed by clicking *Appliances* in the side navigation bar. *All* is automatically selected and the Appliances - All window will appear. You may then click a DSR switch or CPS appliance type, *EVR1500* or *Generic* beneath Appliances in the side navigation bar to display an Appliances window containing only managed appliances of the particular type.

NOTE: Recently accessed units may be viewed by clicking the *Recently Accessed* link in the side navigation bar.

In addition to these types of groupings, the DSView software also allows you to group units in other ways. You may add or modify the group types and add or delete members to or from the following types of groups:

- Personal and global unit groups - Global unit groups may be seen by all DSView users, while personal unit groups are visible only to the DSView user who created the group.
- Custom Fields - Custom fields allow a DSView user to create groupings of units which are accessed by all DSView users in the DSView system by clicking a link in the side navigation bar.
- Sites
- Departments
- Locations

A site, department and location may be used in conjunction to provide a detailed description of where a unit resides. For example, a DSR1021 switch may be assigned a site of New York, a department of Information Technology and a location of Room 214.

DSView users may be grouped in the following ways:

- Built-In user groups - These groupings already reside in your DSView software.
- User-Defined user groups - These groups are defined by a DSView user.

Managing Units Using Sites

A site is a location name that you provide in which a unit resides. A site may be named in any way you wish. For example, you may wish to assign site names such as Austin, 10045 Zip Code and so on.

Sites will appear in the side navigation bar when you click *Units* in the tab bar and *Units* in the top navigation bar if at least one unit is associated with a site. All sites that contain at least one unit are listed in alphabetical order when you click *Sites* in the side navigation bar, as shown in Figure 8.1. To view the managed appliances assigned to a particular site, click the name of a site in the side navigation bar.

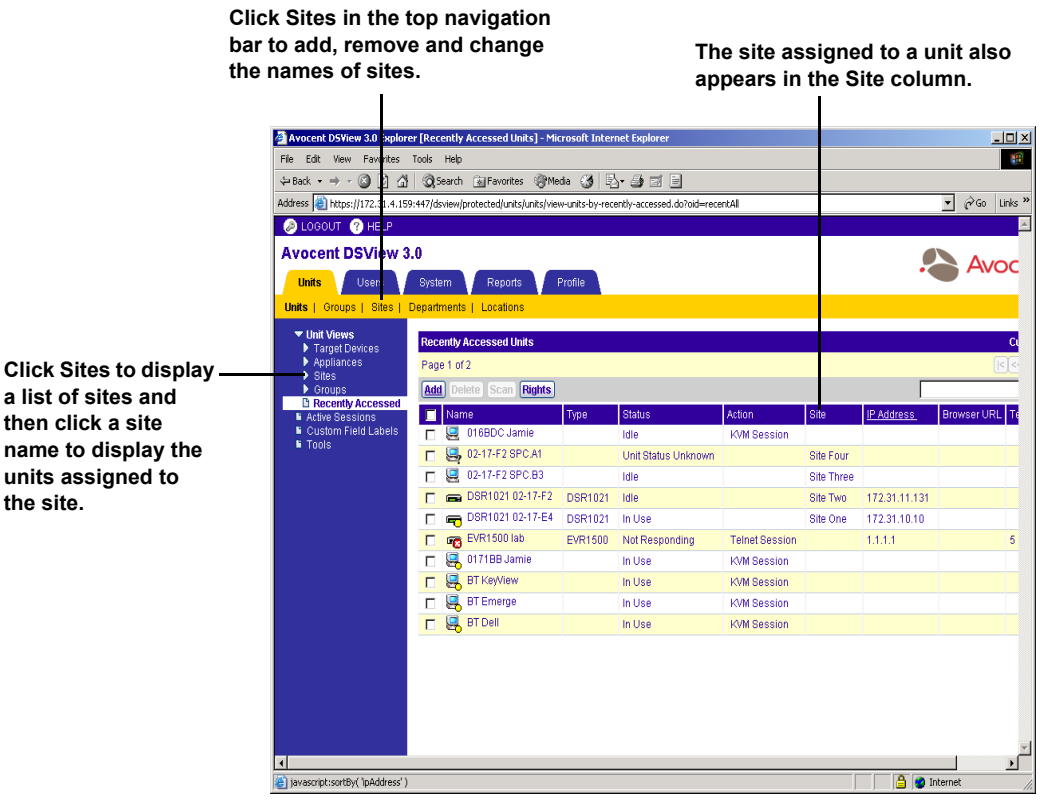


Figure 8.1: Displaying Sites

Sites that contain units to which a DSView user does not have access rights will not appear in the side navigation bar. The sites will appear in the side navigation bar for any DSView users that have access rights to the units in the sites.

The site assigned to a unit will appear in the Site column of the windows listed in Table 8.1when you click the *Units* tab bar, the *Units* top navigation bar and the corresponding link in the side navigation bar

Table 8.1: Windows Containing a Site Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
Target Devices window	A link under Target Devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed

NOTE: The Site column may be turned off using the Customize link. See *Using the Customize Link in DSView Software Windows* on page 15 for more information.

The steps for using a site are:

1. Add the site to the DSView system.
2. Associate units with the site.

Viewing, adding, modifying and deleting sites

You may view, add, delete or change the name of a site in the DSView system using the Sites window.

NOTE: You may customize the number of sites that appear in the Sites window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for information using the Customize link.

To display the Sites window and view sites:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Sites*. *Sites* is automatically selected in the side navigation bar and the Sites window will appear.

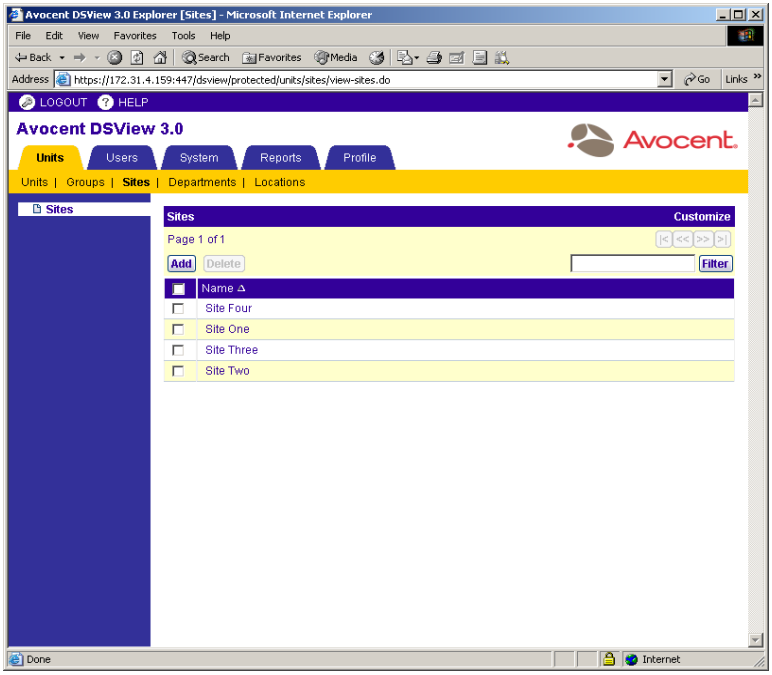


Figure 8.2: Sites Window

To add a site:

1. From the Sites window, click *Add*. The Add Site window will appear.

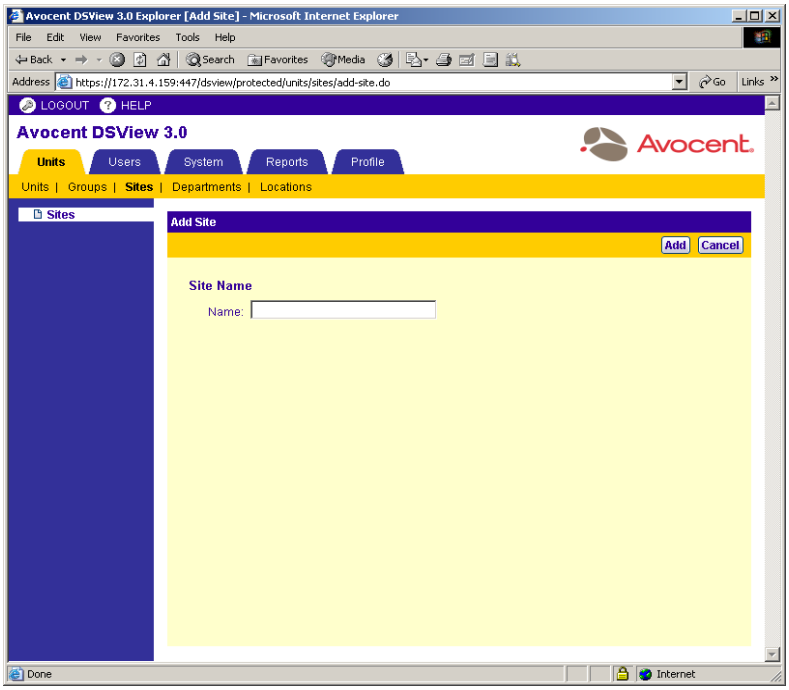


Figure 8.3: Add Site Window

2. Type a name for the site.
3. Click *Add*. The Sites window will appear including the newly added site.

To delete a site:

1. From the Sites window, click the checkbox to the left of the sites you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all sites listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the sites.

   -or-

   Click *No* to cancel the action.

To change the name of a site:

1. From the Sites window, click on the name of a site. The side navigation bar will change to include the name of the site at the top.
2. Click *Name*. The Site Name window will appear.

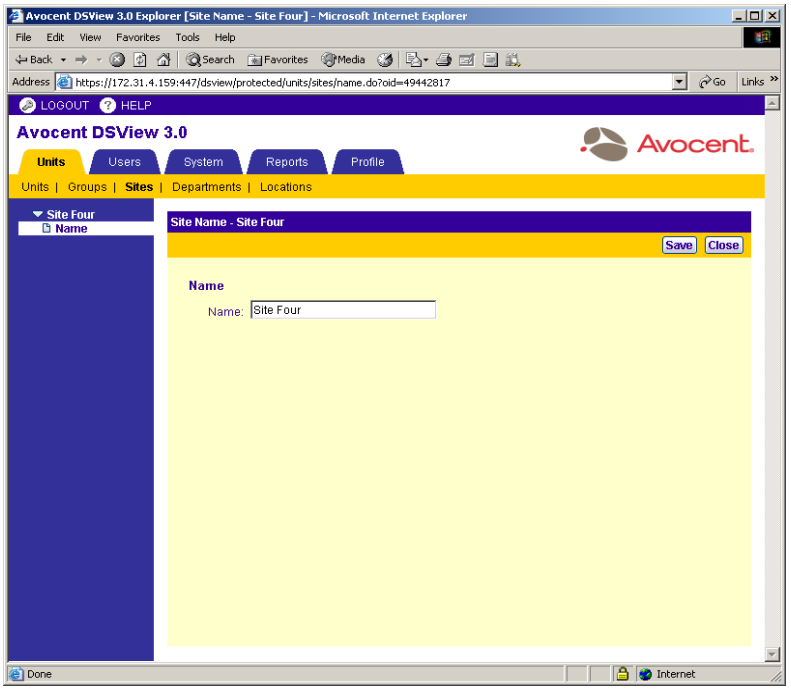


Figure 8.4: Site Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Sites window will appear including the renamed site.

Displaying units associated with sites

Once a site has been created, it may be displayed. Initially, the site will be empty. You may associate units to the site. See *Associating, changing or removing the association of units with a site* on page 302 for more information.

To display the units associated with a site:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. From the side navigation bar, click *Sites*. The Units in Site window will appear with information for the first alphabetically-listed site.

   In Figure 8.5, Site Three is assigned as the site name. The window is named Units in Site - Site Three and contains only units that are assigned to the Site Three site.

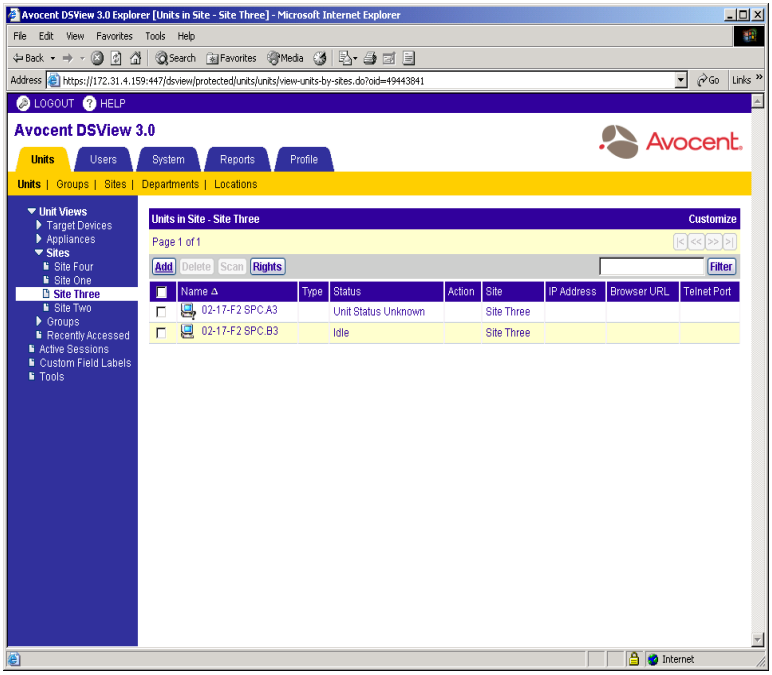


Figure 8.5: Example Units in Site Window

3. Click on a site link in the side navigation bar to display another site.

Associating, changing or removing the association of units with a site

Once you have created a site, you may associate existing units with the site. If a unit is already associated with a site, it may be changed so that it will be associated with another site.

See *Adding Units* on page 130 for more information on using the Add Unit Wizard.

To associate or change the association of an existing unit to a site:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the links in Table 8.2 in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association:

Table 8.2: Links for Add, Changing or Removing Site Association

Link	Window	Changes Site Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units

NOTE: For custom fields to display in the side navigation bar, at least one unit to which a DSView user has access rights must have a custom field setting. The default labels for custom fields defaults are Custom Field 1, Custom Field 2 and Custom Field 3, which may be changed. See *Managing Units using Custom Fields* on page 323 for more information.

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the site to associate with the unit. If you do not wish to associate the unit with any site, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Site column will display the new site name and the unit will appear under the site when you click *Units* from the tab bar, *Units* from the top navigation bar and *Sites* and the site name from the side navigation bar.

Managing Units Using Departments

A department is a location name that you provide which may be associated with a unit resides. A department may be named in any way you wish. For example, you may wish to assign department names such as Software Development, Human Resources, Accounting and so on.

The department assigned to a unit will appear in the Department column of the windows listed in Table 8.3when you click the *Units* tab bar, the *Units* top navigation bar and the corresponding link in the side navigation bar

Table 8.3: Windows Containing a Department Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
Target Devices window	A link under Target Devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed

By default, the Department column is not displayed in any of the windows. You may display the Department column by clicking *Customize* and adding the field. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

The steps for using a department are:

1. Add the department to the DSView system.
2. Associate units with the department.

Viewing, adding, modifying and deleting departments

You may view, add, delete or change the name of a department in the DSView system using the Departments window.

NOTE: You may customize the number of departments that appear in the Departments window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for information using the Customize link.

To display the Departments window and view departments:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Departments*. *Departments* is automatically selected in the side navigation bar and the Departments window will appear.

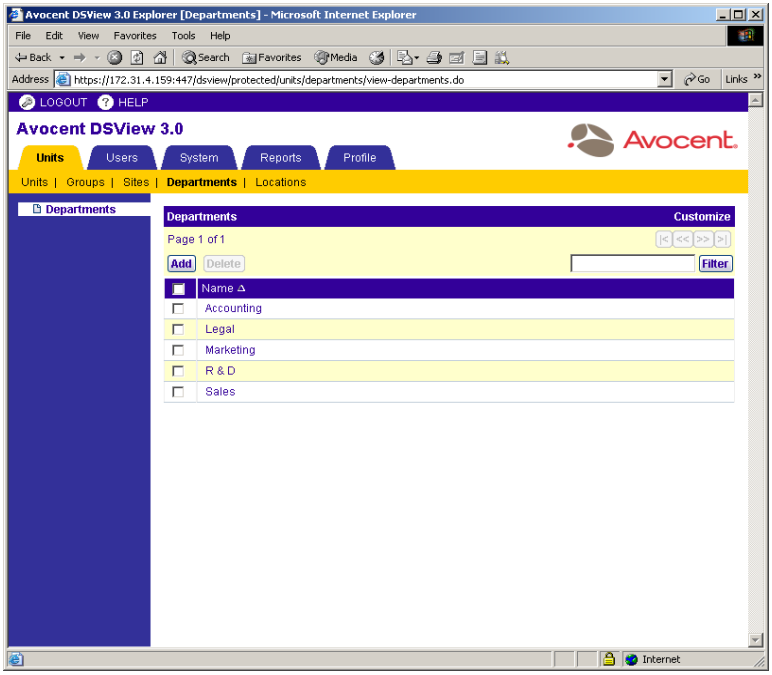


Figure 8.6: Departments Window

To add a department:

1. From the Departments window, click *Add*. The Add Department window will appear.

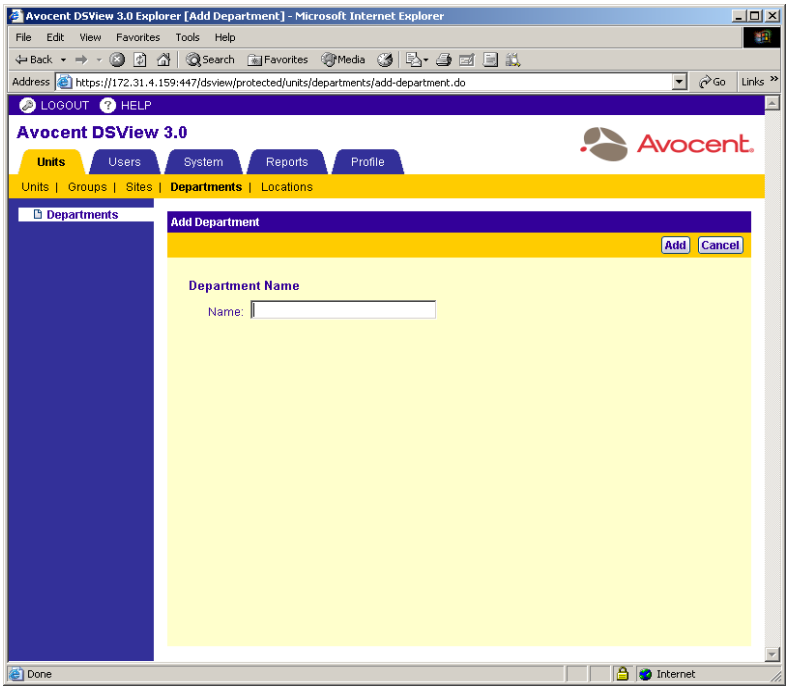


Figure 8.7: Add Department Window

2. Type a name for the department. Department names may be 1-64 characters long.
3. Click *Add*. The Departments window will appear including the newly added department.

To delete a department:

1. From the Departments window, click the checkbox to the left of the departments you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all departments listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the departments.

   -or-

   Click *No* to cancel the action.

To change the name of a department:

1. From the Departments window, click on the name of a department. The side navigation bar will change to include the name of the department at the top.

2. Click *Name*. The Department Name window will appear.

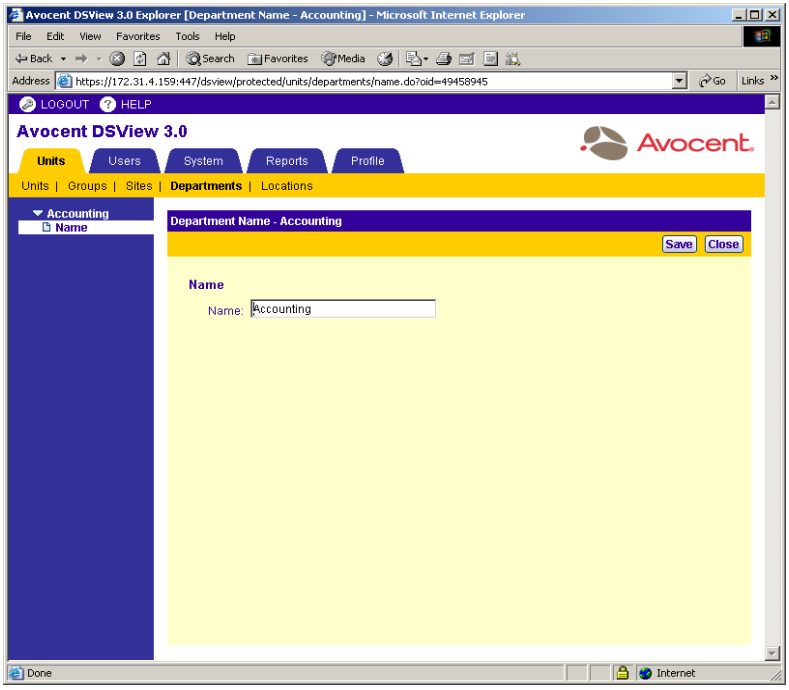


Figure 8.8: Department Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Departments window will appear including the renamed department.

Associating, changing or removing the association of units with a department

Once you have created a department, you may associate units with the department. If a unit is already associated with a department, it may be changed so that it will be associated with another department.

To associate or change the association of an existing unit to a department:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the links listed in Table 8.4in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association:

Table 8.4: Links for Adding, Changing or Removing Department Association

Link	Window	Changes Department Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the department to associate with the unit. If you do not wish to associate the unit with any department, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Department column will display the new department name.

Managing Units Using Locations

A location is a name that you provide which may be associated with a unit. A location may be named in any way you wish. For example, you may wish to assign location names such as Lab Room 101, System Administrator's Office and so on.

The location assigned to a unit will appear in the Location column of the windows listed in Table 8.5when you click the *Units* tab bar, the *Units* top navigation bar and the corresponding link in the side navigation bar

Table 8.5: Windows Containing a Location Column

Window	Link Clicked in Side Navigation Bar
Units in Site window	Sites
Target Devices window	A link under Target Devices
Appliances window	A link under Appliances
Units in Group window	Groups
Units in Custom Fields window	A link under Custom Field
Recently Accessed Units window	Recently Accessed

By default, the Location column is not displayed in any of the windows. You may display the Location column by clicking *Customize* and adding the field. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

The steps for using a location are:

1. Add the location to the DSView system
2. Associate units with the location.

Viewing, adding, modifying and deleting locations

You may view, add, delete or change the name of a location in the DSView system using the Locations window.

NOTE: You may customize the number of locations that appear in the Locations window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for information using the Customize link.

To display the Locations window and view locations:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Locations*. *Locations* is automatically selected in the side navigation bar and the Locations window will appear.

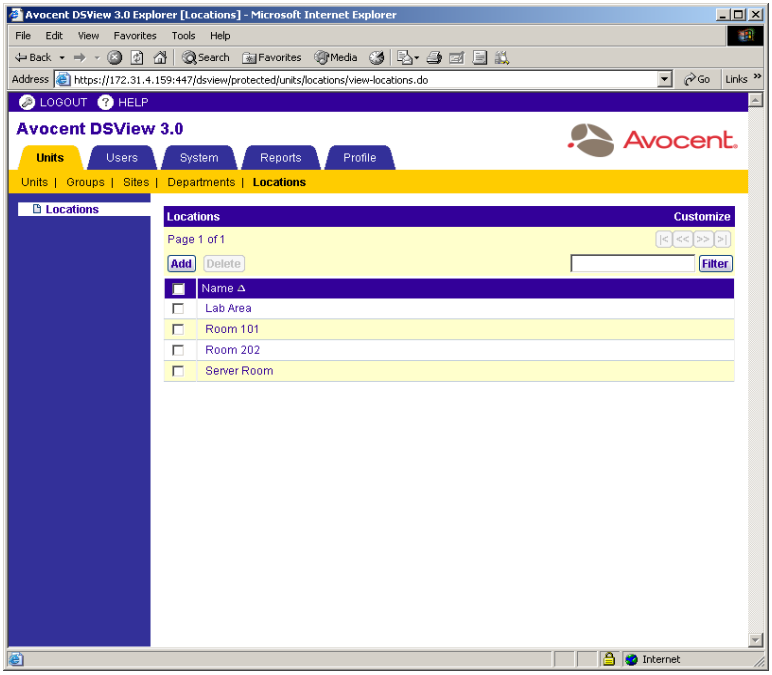


Figure 8.9: Locations Window

To add a location:

1. From the Locations window, click *Add*. The Add Location window will appear.

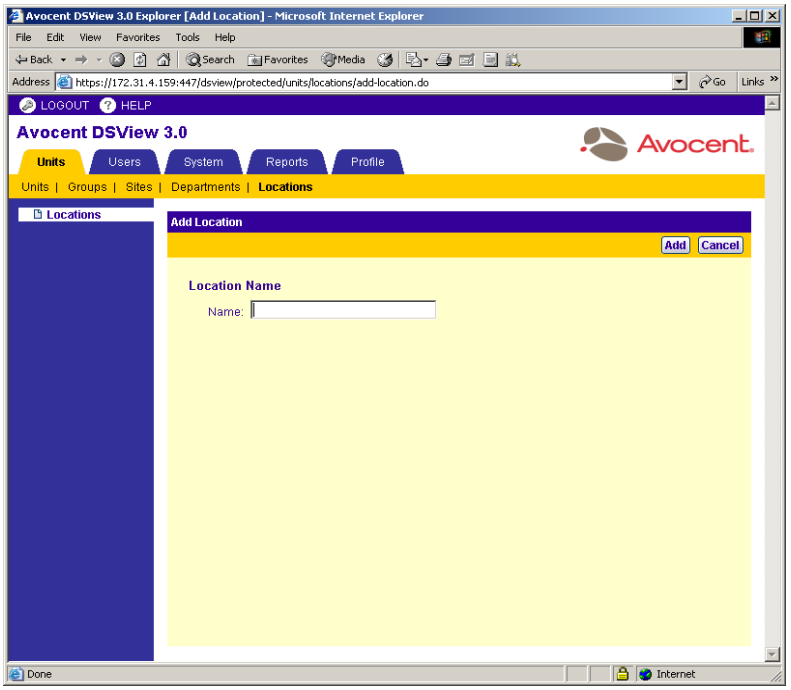


Figure 8.10: Add Location Window

2. Type a name for the location.
3. Click *Add*. The Locations window will appear including the newly added location.

To delete a location:

1. From the Locations window, click the checkbox to the left of the locations you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all locations listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the departments.

   -or-

   Click *No* to cancel the action.

To change the name of a location:

1. From the Locations window, click on the name of a location. The side navigation bar will change to include the name of the location at the top.
2. Click *Name*. The Location Name window will appear.

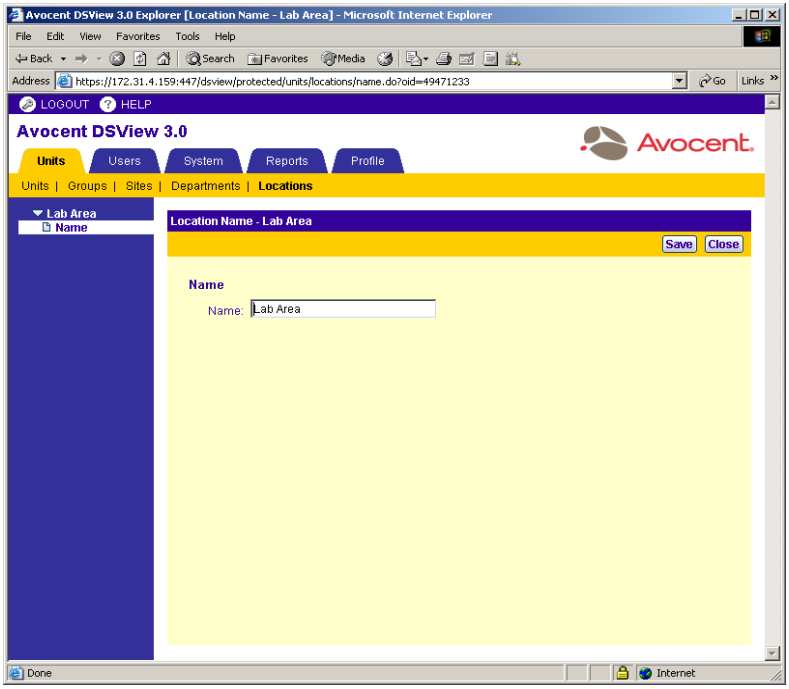


Figure 8.11: Location Name Window

3. Type a new name in the Name field. Names may be 1-64 characters long.
4. Click *Save* to save your changes.
5. Click *Close*. The Locations window will appear including the renamed location.

Associating, changing or removing the association of units with a location

Once you have created a location, you may associate units with the location. If a unit is already associated with a location, it may be changed so that it will be associated with another location.

To associate or change the association of an existing unit to a location:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. Click one of the following links in the side navigation bar to display the corresponding window for the units you wish to associate, change or remove the association:

Table 8.6: Links for Adding, Changing or Removing Location Association

Link	Window	Changes Location Associations For...
A link under Target Devices	Target Devices window	Target devices only
A link under Appliances	Appliances window	Managed appliances only
Sites	Units in Site window	Units
Groups	Units in Group window	Units
A link under Custom Field	Units in Custom Fields window	Units
Recently Accessed	Recently Accessed Units window	Units

3. Click on the name of a unit. The Unit Overview window will appear.
4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Location*.
6. Using the drop-down menu, select the location to associate with the unit. If you do not wish to associate the unit with any location, choose the top (empty) item from the drop-down menu.
7. Click *Save*.
8. Click *Close*. The Location column will display the new location name.

Managing Units using Unit Groups

Unit groups may be used to organize the units in your DSView system. The following two types of unit groups are available in the DSView software:

- Personal - A personal unit group is only viewable by the DSView user who created the unit group. Up to 32 personal unit groups may be created by a DSView user.
- Global - A global unit group is viewable by any DSView user logged in to the DSView software.

Personal unit groups will appear in the Personal Unit Groups window and global unit groups will appear in the Global Unit Groups window. You may specify the number of unit groups that display per window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

Units may belong to multiple groups. For example, you may have a DSR1021 switch that belongs to two global groups and three personal groups.

To view unit groups:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar.
2. From the top navigation bar, click *Groups*. *Personal* is automatically selected in the side navigation bar and the Personal Unit Groups window will appear.

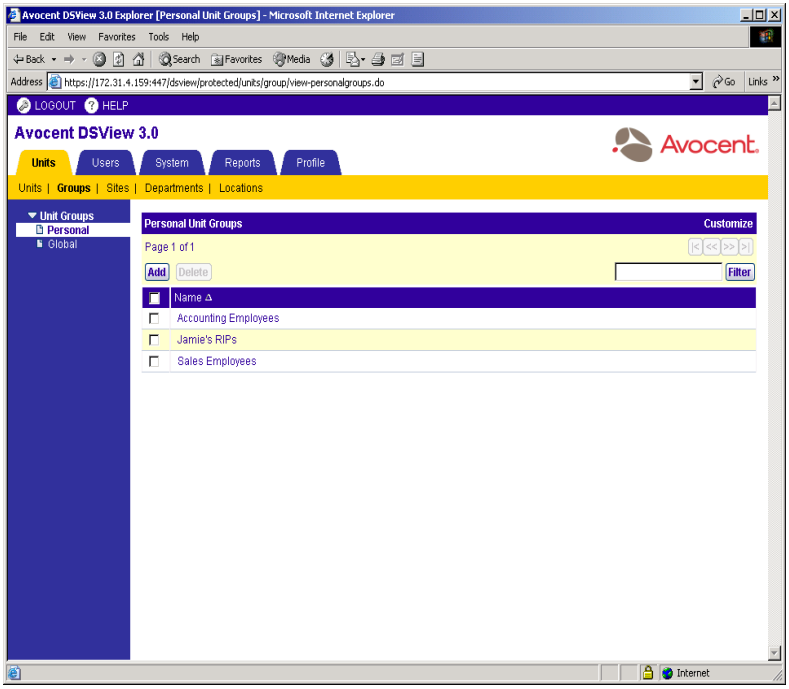


Figure 8.12: Personal Unit Groups Window

-or-

From the side navigation bar, click *Global*. The Global Unit Groups window will display.

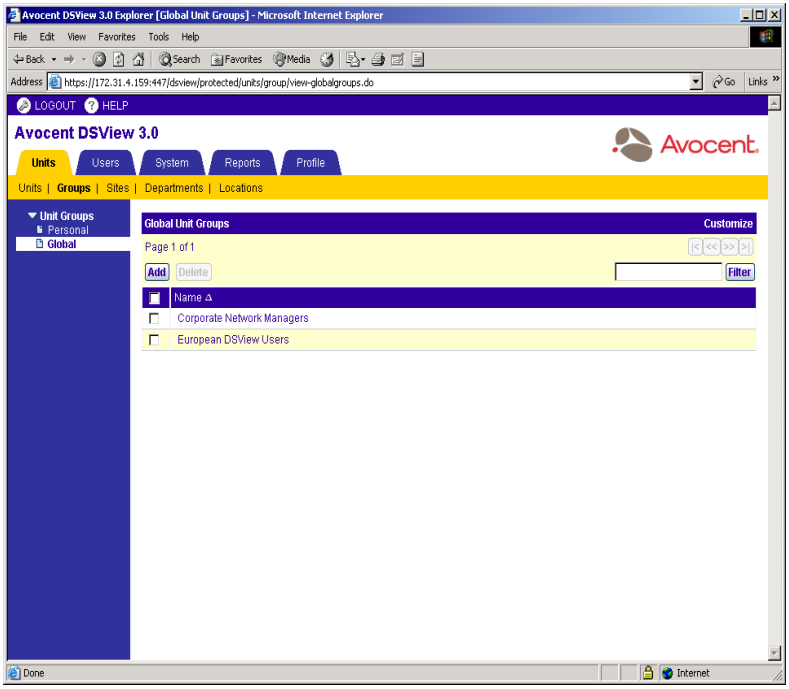


Figure 8.13: Global Unit Groups Window

Adding unit groups

You may add global and personal unit groups to the DSView system.

NOTE: Global unit groups may only be created by DSView users with DSView Administrator, User Administrator or Appliance Administrator privileges.

To add a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click *Add*. The Welcome window of the Add Unit Group wizard will appear.

   Click *Next*.

   If you are a member of the DSView Administrators, User Administrators or Appliance Administrators built-in user groups, continue to step 2.

   If you are a member of any other user group, go to step 3.

2. The Select Unit Group Type window will appear.

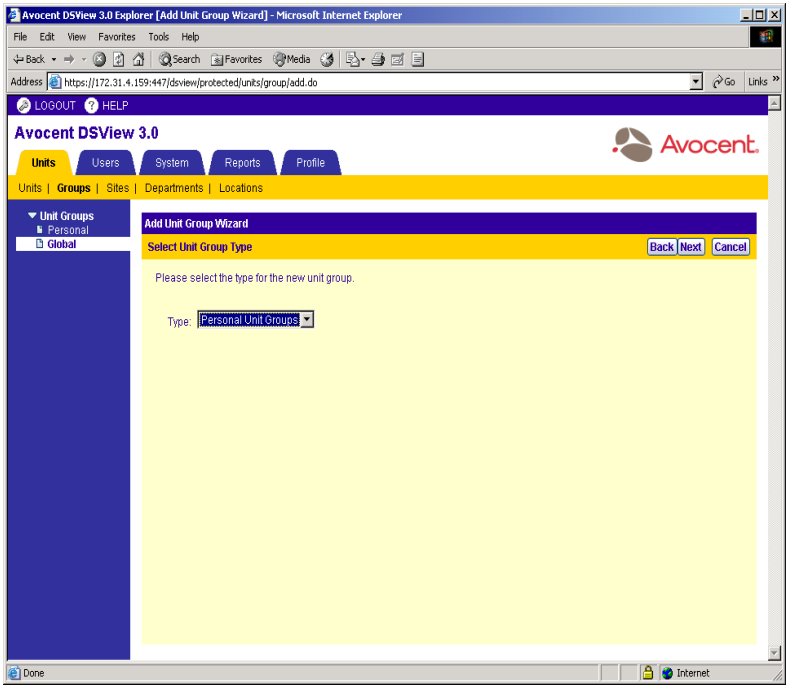


Figure 8.14: Add Unit Group Wizard - Select Unit Group Type Window

a. Select *Personal* from the drop-down menu to create a personal unit group.

-or-

Select *Global* from the drop-down menu to create a global unit group.

b. Click *Next*.

3. The Type in Unit Group Name window will appear.

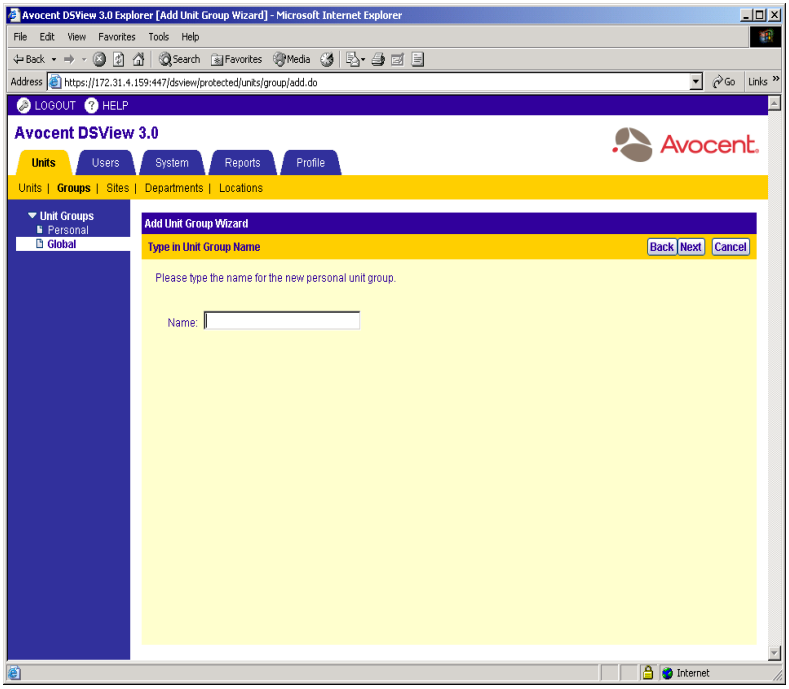


Figure 8.15: Add Unit Group Wizard - Type in Unit Group Name Window

a. Type a name for the unit group.

b. Click *Next*.

4. The Completed Successful window will appear. Click *Finish*. The Personal Unit Groups (if creating personal unit groups) or Global Unit Groups (if creating global unit groups) window will appear including the newly added unit group.

Deleting unit groups

You may delete global or personal unit groups in the DSView system. Deleting a global or personal unit group deletes the group only. The units still exist on the DSView system.

NOTE: Global unit groups may only be deleted by DSView users with DSView Administrator, User Administrator or Appliance Administrator privileges.

To delete a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click the checkbox to the left of the unit groups you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all unit groups listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *Yes* to delete the unit group(s)

   -or-

   Click *No* to cancel the action.

Viewing and modifying unit group members

Clicking on the name of a global or personal unit group allows you to do the following:

- Change the name of the unit group.
- View, assign or remove unit group members

NOTE: Global unit group properties may only be modified by DSView users with DSView Administrator, User Administrator or Appliance Administrator privileges.

To change the name of a unit group:

1. From the Global Unit Groups or Personal Unit Groups window, click on the name of a unit group. *Name* will be automatically selected in the side navigation bar and the Unit Group Name window will appear. The side navigation bar will include the name of the unit group at the top.

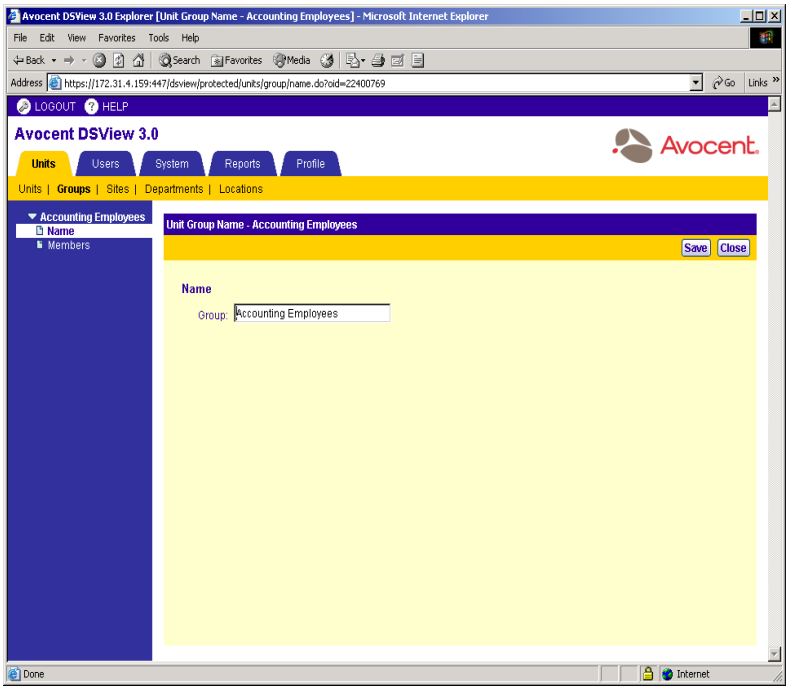


Figure 8.16: Unit Group Name Window

2. Type a new name in the Group field. Group names may be 1-64 characters long.
3. Click *Save* to save your changes.
4. Click *Close*. The Personal Unit Groups (if renaming a personal unit group) or Global Unit Groups (if renaming a global unit group) window will appear including the renamed unit group.

Adding and removing unit group members

You may add and remove units to and from global and personal unit groups. Removing a unit from a global or personal unit group does not delete the unit from the DSView system or any other group to which it belongs.

NOTE: Members may only be added to global unit group properties may by DSView users with DSView Administrator, User Administrator or Appliance Administrator privileges.

To add or remove unit group members:

1. From the Global Unit Groups or Personal Unit Groups window, click on the name of a unit group. *Name* will be automatically selected in the side navigation bar and the Unit Group Name window will appear. The side navigation bar will include the name of the unit group at the top.

2. From the side navigation bar, click *Members*. The Unit Group Members window will appear including a list of all units belonging to the unit group.

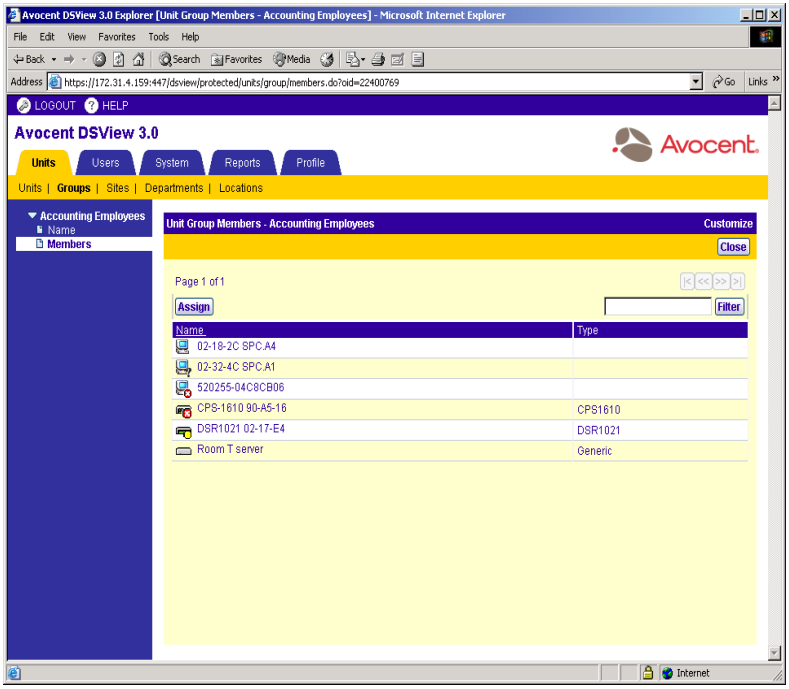


Figure 8.17: Unit Group Members Window

3. Click *Assign*. The Assign Units to Unit Group window will appear.

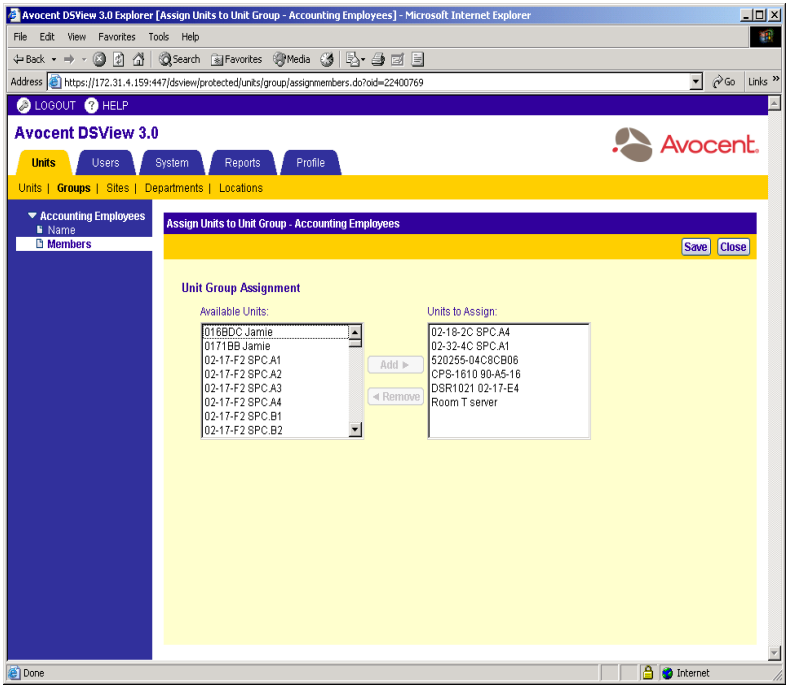


Figure 8.18: Assign Units to Unit Group Window

4. Add a unit to the unit group:
   a. Select the unit you wish to add from the Available Units list. Multiple units may be selected by pressing **Ctrl** while clicking on the unit names.
   b. Click *Add*. The units will be moved to the Units to Assign list.

   -or-

   Remove a unit already assigned to the unit group:
   a. Select the unit you wish to remove from the Units to Assign list. Multiple units may be selected by pressing **Ctrl** while clicking on the unit names.
   b. Click *Remove*. The units will be moved to the Available Units list.
5. Click *Save* to save your changes.
6. Click *Close*. The Unit Group Members window will appear including your additions or removals.
7. Click *Close*. The Personal Unit Groups (if adding or removing members to or from a personal unit group) or Global Unit Groups (if adding or removing members to or from a global unit group) window will appear.

Using Groups to view and modify units

NOTE: You may customize the fields that display in the Units in Group window by clicking on the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

The Units in Group window allows you to delete, scan and assign rights to all or specific units in a personal or global group.

All personal and global groups are listed in alphabetical order in the side navigation bar. To view the managed appliances belonging to a specific personal or global group, click the name of the group in the side navigation bar to display the Units in Group window.

NOTE: If a personal or global group does not contain at least one unit, the group will not display in the side navigation bar.

See *Adding unit groups* on page 315 for information on creating personal and global groups.

You may click on a target device to display links in the side navigation bar for modifying its overview information, properties, access rights and connections. Clicking on a managed appliance displays links in the side navigation bar for modifying its overview information, properties, access rights, appliance settings (DSR switches and CPS appliances) and connections (DSR switches or CPS appliances). These side navigation bar links work identically to those selected from a Unit Views window. See *Managing Units* on page 147 for detailed information on using these links.

To display a personal or global group in the Units in Group window:

1. From the DSView 3.0 Explorer, click *Units* in the tab bar. *Units* is automatically selected in the top navigation bar.
2. From the side navigation bar, click *Groups*. The Units in Group window will appear and automatically display the first alphabetically-listed personal or global group.
    - In Figure 8.19, Accounting Employees is assigned as the group name. The window is named Units in Group - Accounting Employees and contains only those managed appliances that are assigned to the group.

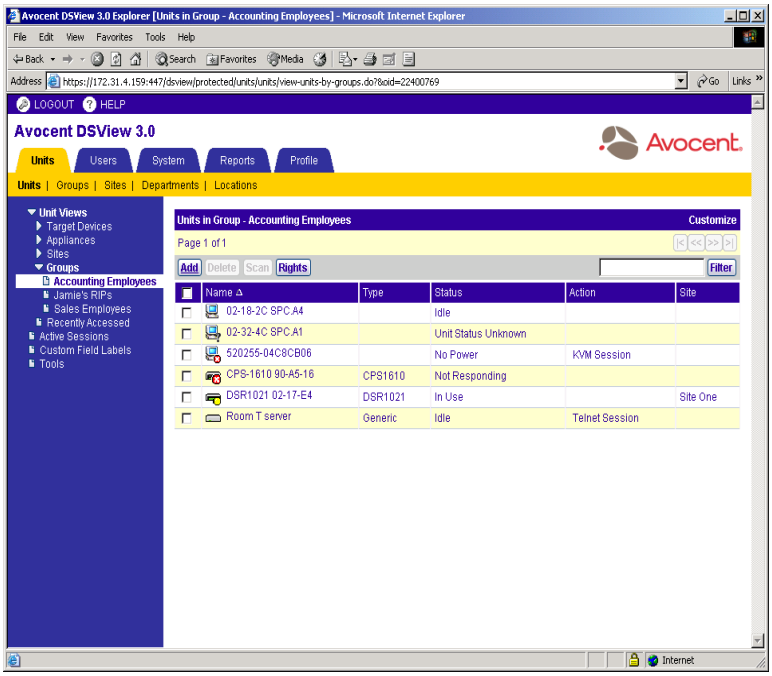


Figure 8.19: Units in Group Window

3. From the side navigation bar, click on the name of the personal or global group you wish to view. A Units in Group window will appear containing only the units that have been added to the group.

Managing Units using Custom Fields

Custom fields may be used within the DSView software to organize units. Up to three custom fields may be used in your DSView system. Three default custom field labels are defined in the DSView software (Custom Field 1, Custom Field 2 and Custom Field 3). You may change the default labels if you wish and then associate units to the custom fields. The first system custom field and the first and second custom field names for units will appear in the side navigation bar once they have been assigned to a unit. Clicking on a first or second level custom field will display a Units in Custom Field area window containing the units associated with the custom field. The third custom field, as well as the first and second custom field, may be displayed in the content area of an Appliances, Target Devices, Units in Site, Units in Custom Field or Recently Accessed Units windows by clicking the *Customize* link and adding the fields. See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

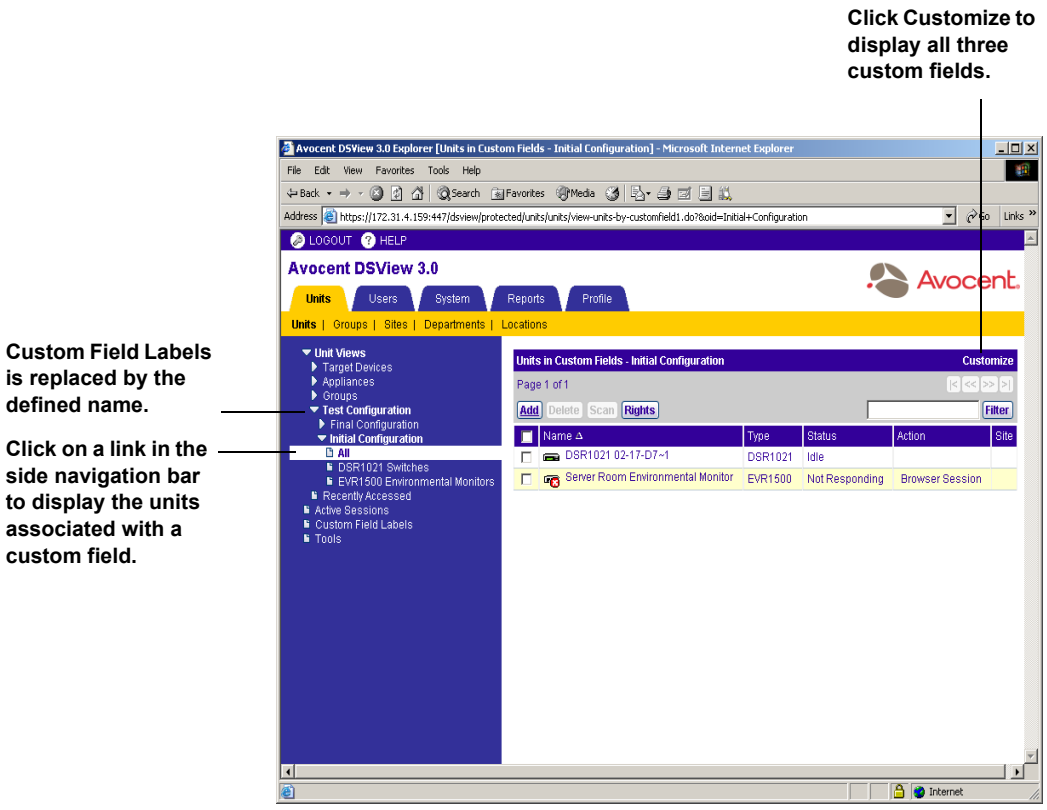


Figure 8.20: Units in Custom Field Window

To define custom fields:

NOTE: You must be a member of the DSView Administrators or Appliance Administrators built-in user groups to define custom fields.

1. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Custom Field Labels*. The Unit Custom Field Labels window will appear.

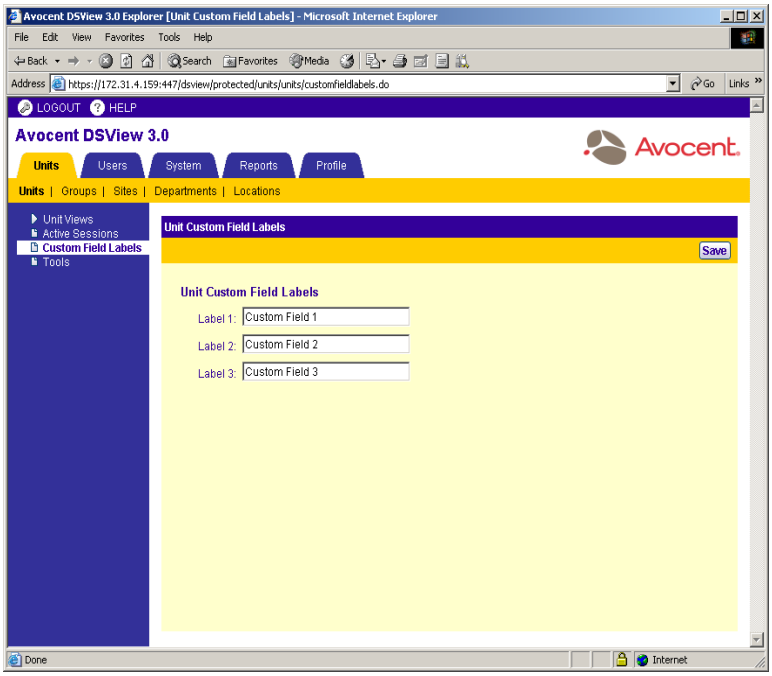


Figure 8.21: Unit Custom Field Labels Window

3. In Label 1, type the name you wish to define for the first custom field label (1-64 characters). All first-level custom fields for units will appear under this heading in the side navigation bar.
4. In Label 2, type the name you wish to define for the second custom field label (1-64 characters). All second-level custom fields for units will appear under this heading in the side navigation bar.
5. In Label 3, type the name you wish to define for the third custom field label (1-64 characters). This custom field will not appear in the side navigation bar, but may be displayed in the content area by clicking *Customize* and adding the field.
6. Click *Save* to save your changes.

   Custom Field Labels will still appear in the side navigation bar, since you have not yet defined any custom fields for units.

To associate a custom label with a unit:

1. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Appliances*. The Appliances - All window will appear.
3. Click on a unit. The Unit Overview window will appear. The side navigation bar will include the name of the unit at the top and a list of links below it.

4. From the side navigation bar, click *Properties*.
5. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names defined in the previous procedure.

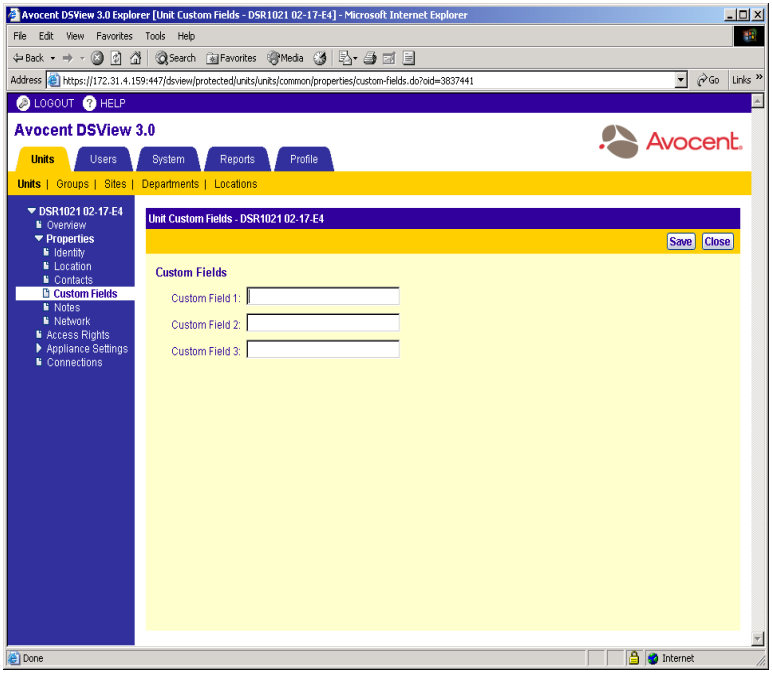


Figure 8.22: Unit Custom Fields Window

6. In the first field, type the name that you wish to associate with the first label defined for the DSView system (0-64 characters). You may also leave the field blank.
7. In the second field, type the name that you wish to associate with the second label defined for the DSView system (0-64 characters). You may also leave the field blank.
8. In the third field, type the name that you wish to associate with the third label defined for the DSView system (0-64 characters). You may also leave the field blank.
9. Click *Save* to save your changes.
10. Click *Close*. The Appliance - All window will appear. The side navigation bar will now include the names of the first and second custom fields defined in steps 6 and 7 instead of Custom Field Labels.

NOTE: The third custom field, as well as the first and second custom fields, may be displayed in the content area by clicking *Customize* and turning them on.

Custom fields example

In the following example, a DSView Administrator wishes to examine a test configuration of units. The units will be placed in one of two groups. Some units will be placed into an initial configuration group and others that have been examined will be placed into a final configuration grouping. The DSView Administrator also wishes to identify the managers of the units. At the present time, the DSView Administrator has one DSR1021 and one EVR1500 environmental monitor to add to the test configuration group and one generic appliance to add to the final configuration group.

1. First, the DSView Administrator will need to define the DSView software custom fields as follows:
   a. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
   b. From the side navigation bar, click *Custom Field Labels*. The Unit Custom Field Labels window will appear.
   c. In Label 1, type **Test Configuration**. All first-level custom fields for units will appear under this heading in the side navigation bar.
   d. In Label 2, type **Appliances and Target Devices**. All second-level custom fields for units will appear under this heading in the side navigation bar.
   e. In Label 3, type **Manager**. This custom field will not appear in the side navigation bar, but may be displayed in the content area by clicking *Customize* and adding the field.
   f. Click *Save* to save your changes.

      Custom Field Labels will still appear in the side navigation bar since the DSView Administrator has not yet defined any custom fields for units.
2. A DSR1021 switch has been configured on the system, but will need to go into a group named Initial Configuration since it has not yet been verified for the final configuration. The DSView Administrator will associate the DSR1021 switch managed by John Smith to the custom fields as follows:
   a. From the side navigation bar, click *Appliances*. The Appliances - All window will appear.
   b. Click on a DSR1021 switch. The Unit Overview window will appear. The side navigation bar will include the name of the DSR1021 switch at the top and a list of items below it.
   c. From the side navigation bar, click *Properties*.
   d. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.

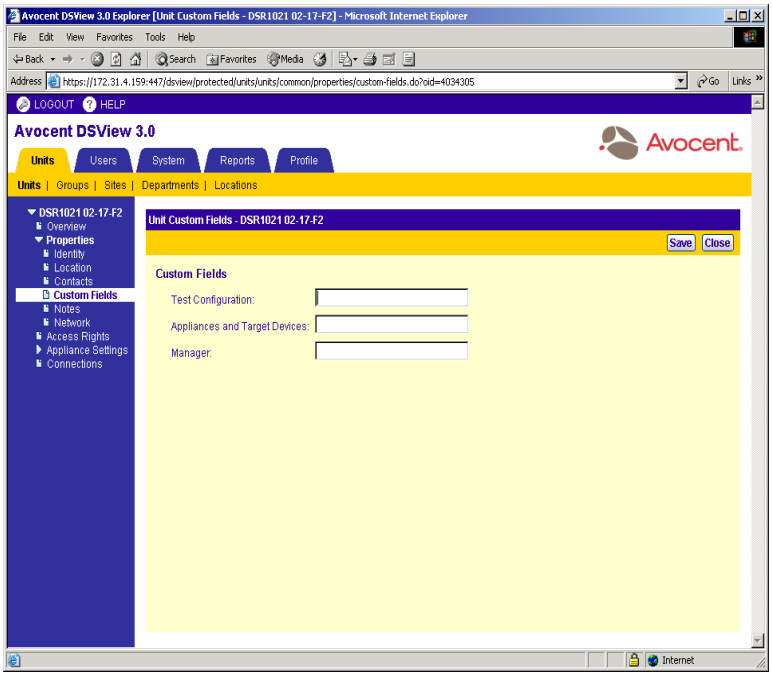


Figure 8.23: Custom Fields Example: Unit Custom Fields Window

e. In the Test Configuration field, type **Initial Configuration**.

f. In the Appliances and Target Devices field, type **DSR1021 Switches**.

g. In the Manager field, type **John Smith**.

h. Click *Save* to save the changes.

i. Click *Close*. The Appliance - All window will appear. The side navigation bar will now include Test Configuration instead of Custom Field Labels.

3. The test configuration will also include an EVR1500 environmental monitor that is managed by Mary Jones. The EVR1500 environmental monitor has also not been verified for the final configuration, so the DSView Manager will include it in the Initial Configuration group.

   a. From the Appliances - All window, click on an EVR1500 environmental monitor. The Unit Overview window will appear. The side navigation bar will include the name of the EVR1500 environmental monitor at the top and a list of items below it.

   b. From the side navigation bar, click *Properties*.

   c. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.

   d. In the Test Configuration field, type **Initial Configuration**.

   e. In the Appliances and Target Devices field, type **EVR1500 Environmental Monitors**.

f. In the Manager field, type **Mary Jones**.

g. Click *Save* to save the changes.

h. Click *Close*. The Appliance - All window will appear.

4. The configuration of a generic appliance has been verified, so the DSView Administrator now wishes to create a group named Final Configuration that will contain the final test units. The group will contain one generic appliance managed by Tim Brown.

   a. From the Appliances - All window, click on a generic appliance. The Unit Overview window will appear. The side navigation bar will include the name of the generic appliance at the top and a list of items below it.

   b. From the side navigation bar, click *Properties*.

   c. From the side navigation bar, click *Custom Fields*. The Unit Custom Fields window will appear, including the custom field names you defined in step 1.

   d. In the Test Configuration field, type **Final Configuration**.

   e. In the Appliances and Target Devices field, type **Generic Appliances**.

   f. In the DSView users field, type **Tim Brown**.

   g. Click *Save* to save your changes.

   h. Click *Close*. The Appliance - All window will appear.

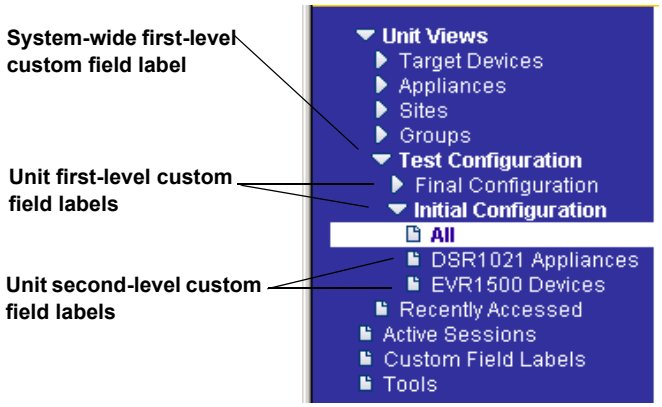


Figure 8.24: Custom Fields Example: Side Navigation Bar

Managing DSView Users using User Groups

DSView users that have been added to the DSView system may be added to the following two types of user groups:

- Built-In - The DSView software is delivered with six predefined user groups: Appliance Administrators, Auditors, DSView Administrators, Everyone, User Administrators and Users. All DSView users are automatically included in the Everyone user group when they are added

to the DSView system. DSView users may be added to any of the other user groups. The privileges that a DSView user has to perform tasks on the DSView system is dependent on the built-in user group to which the DSView user is a member.

- User-defined - You may also define your own custom groups, based on any criteria you wish. For example, you may want to define groups based on user administrators with read-only access, software developers at a specific location, global network infrastructure personnel based on job title and so on.

Built-in user groups will appear in the User Groups - Built-in window and user-defined user groups will appear in the User Groups - User Defined window. By default, the Preemption Level column will appear in the windows and display the preemption level of each user group. The views of the windows may be customized by clicking the *Customize* button to display the following columns:

- Authentication Server - Displays the authentication server assigned to the DSView user. See *DSView Server* on page 55 for information on assigning an authentication server to a group.
- Role - The role of a user-defined user group, which may be None, User, Auditor, Appliance Administrator, User Administrator or DSView Administrator. The role column for a built-in user group or a user-defined user group with a role of None will be empty.
- Type - The type of user group, which will be Built-in or User Defined.

See *Using the Customize Link in DSView Software Windows* on page 15 for more information on customizing windows.

To view user groups:

1. From the DSView 3.0 Explorer, click *Users* in the tab bar.
2. From the top navigation bar, click *Groups*. *Built-In* is automatically selected in the side navigation bar and the User Groups - Built-in window will appear.

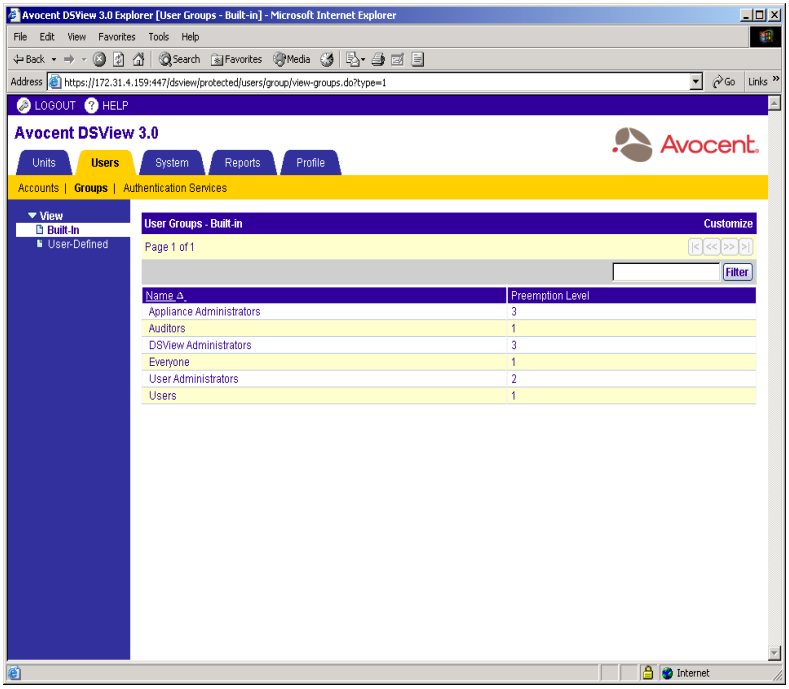


Figure 8.25: User Groups - Built-in Window

-or-

From the side navigation bar, click *User-Defined*. The User Groups - User Defined window will display.

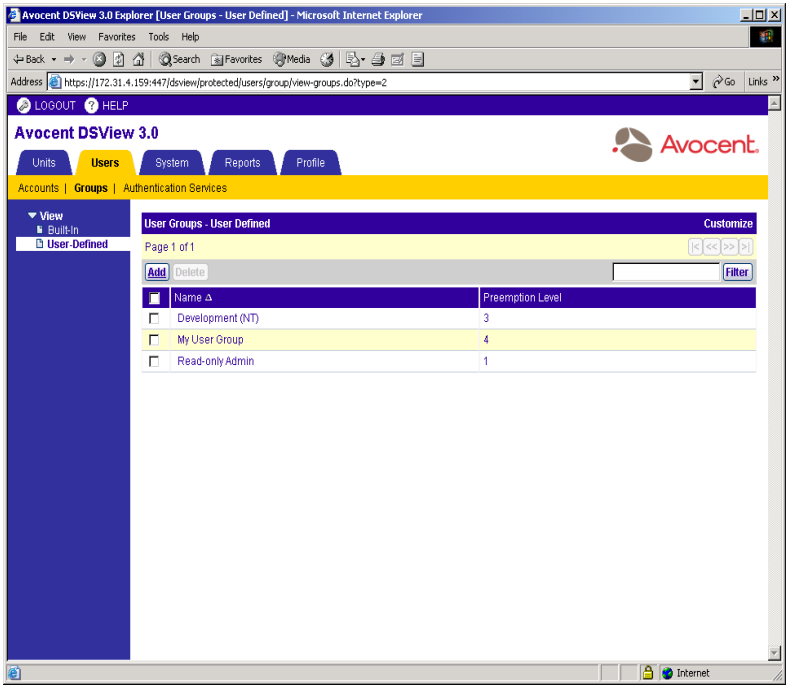


Figure 8.26: User Groups - User Defined Window

Adding user-defined user groups

If you are using DSView Internal authorization, you may add your own custom user-defined user groups. Once a user-defined user group is created, you may add other DSView users that use DSView Internal authentication as members.

NOTE: External user defined user groups may be added, but their membership is not controlled by the DSView software.

When a user-defined user group is created, you specify the preemption level of members of the group. See *User Preemption Levels* on page 21 for information on preemption levels.

To add a user-defined user group:

NOTE: You must have DSView Administrator or User Administrator rights to add or delete user-defined user groups.

1. From the User Groups - User Defined window, click *Add*. The Welcome window of the Add User Group wizard will appear.

   Click *Next*.

2. The Select Authentication Service window will appear.

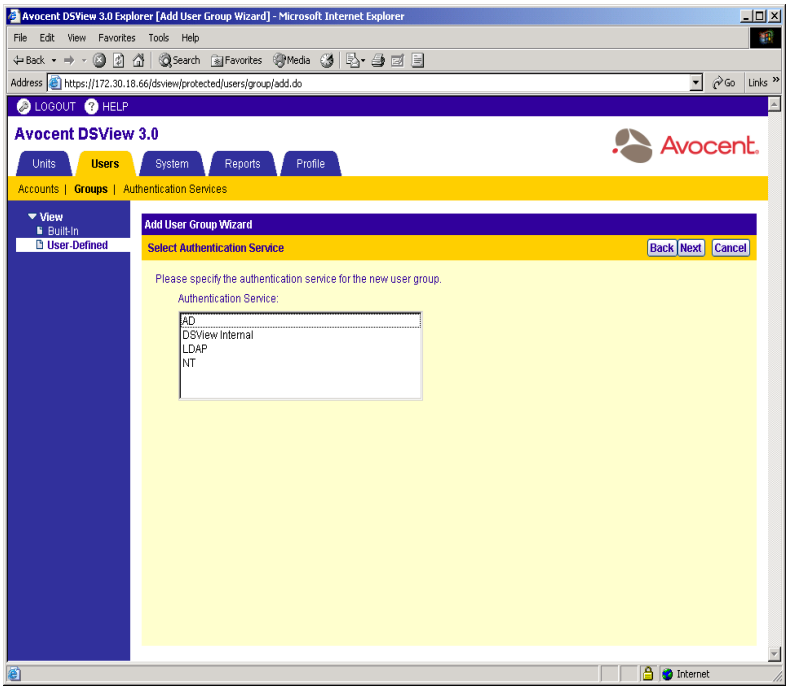


Figure 8.27: Add User Group Wizard - Select Authentication Service Window

The Select Authentication Service window will contain a list of the names of all authentication servers that may be used to authenticate the DSView user group when the DSView user logs in.

NOTE: If multiple external authentication services are configured in your system, they will appear in the Select Authentication Service window.

Authentication servers may be of the following types:

- Active Directory - An external authentication service (purchased separately)
- DSView Internal - The internal DSView software authentication service that validates users against database tables in the DSView management software host. The DSView Internal authentication service is always available.

NOTE: The DSView Internal authentication service is delivered with your DSView software and does not have to be added to your system.

- LDAP - An external authentication service (purchased separately)
- NT - An external authentication service (purchased separately). The NT authentication service requires the Microsoft Win32 platform.

See *Adding an external authentication service* on page 74 for information on adding an authentication service.

a. Click on the name of an authentication service.

b. Click *Next*.

If you selected DSView Internal as the authentication service, continue to step 3.

If you selected any other type of authentication service, go to step 4.

3. The Type in Internal Group Name window will appear.

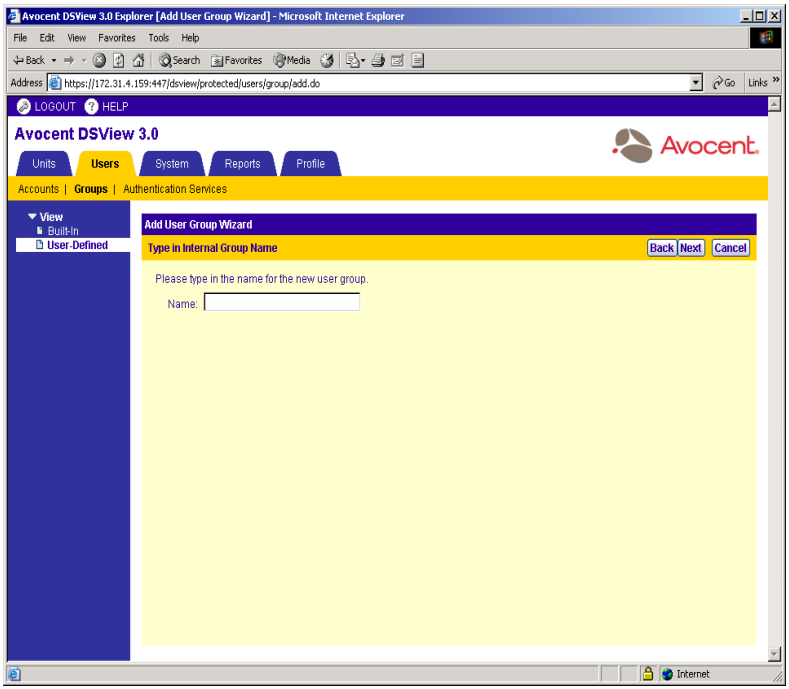


Figure 8.28: Add User Group Wizard - Type in Internal Group Name Window

a. Type the name for the new user group you wish to create.

NOTE: User-defined user group names may be up to 64 non-case-sensitive characters long. User-defined user group names are case-preserving.

b. Click *Next*.

Go to step 7.

4. The Specify External Group Name window will appear.

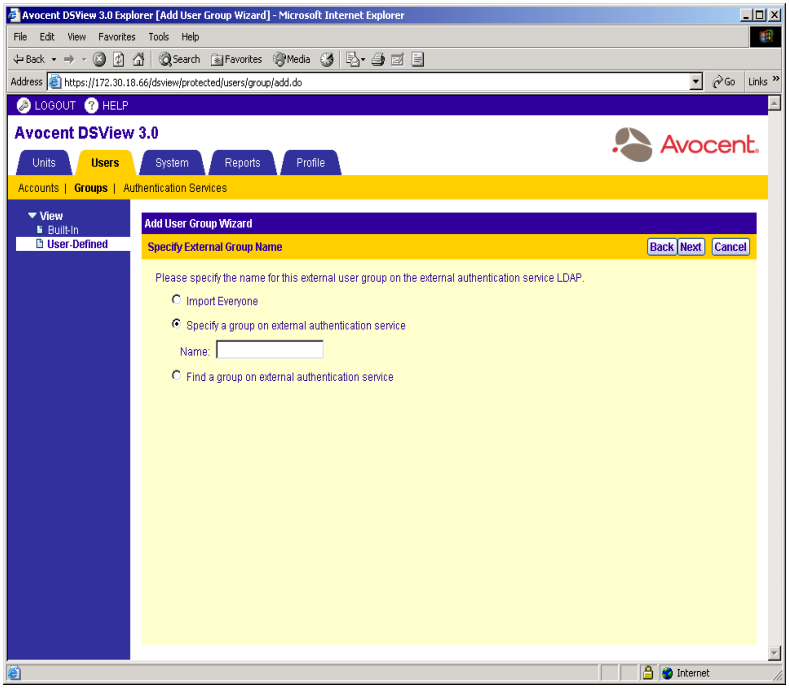

Avocent DSView 3.0 Explorer [Add User Group Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/users/group/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Accounts | Groups | Authentication Services
View
Built-In
User-Defined
Add User Group Wizard
Specify External Group Name
Back Next Cancel
Please specify the name for this external user group on the external authentication service LDAP.
Import Everyone
Specify a group on external authentication service
Name:
Find a group on external authentication service
Internet

Figure 8.29: Add User Group Window - Specify External Group Name Window (LDAP and Active Directory)

a. Click *Import Everyone* to consider any DSView user on the external authentication server as a member of this user group.

   -or-

   Click *Specify a group on external authentication service* and type the name of the group in the field.

NOTE: User group names may be up to 64 non-case-sensitive characters long. User group names are case-preserving if the user group on the external authentication server is case-sensitive.

   -or-

   Click *Find a group on external authentication service* to browse a list of groups on the external authentication service.

b. Click *Next*.

If you selected *Find a group on external authentication service*, continue to step 5.

If you selected *Specify a group on external authentication service*, go to step 6.

5. The Select Group from External Authentication Service window displays.

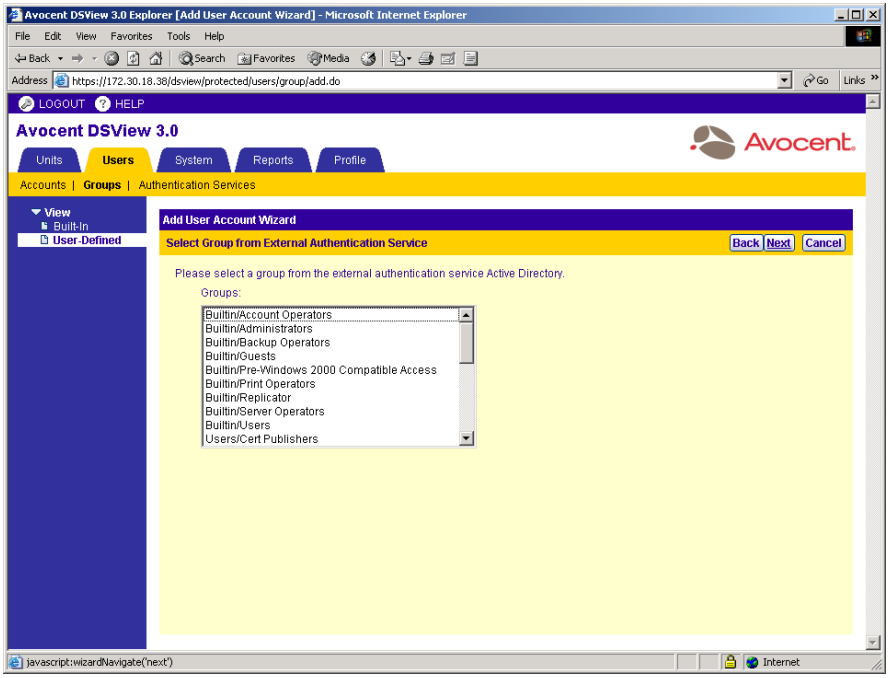


Figure 8.30: Add User Account Wizard - Select Group from External Authentication Service Window

a. Select a group from the list.

b. Click *Next*.

6. The Select Role window will appear.

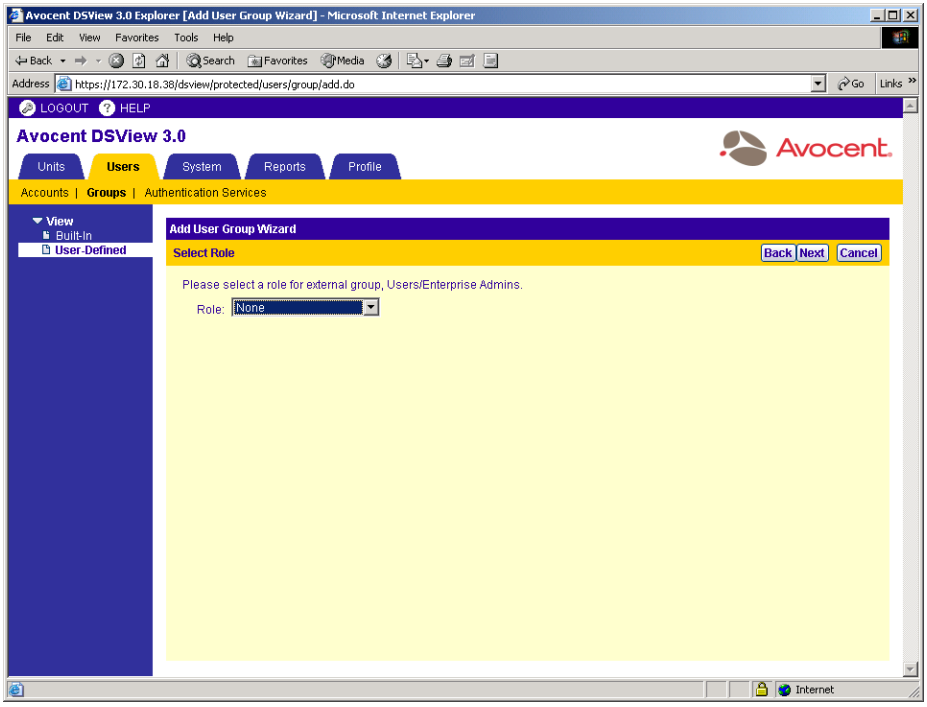


Figure 8.31: Add User Group Wizard - Select Role Window

a. Select one of the following roles for the user group:
   - None
   - User
   - Auditor
   - Appliance Administrator
   - User Administrator
   - DSView Administrator

   See *User Groups* on page 19 for information on DSView user roles.

b. Click *Next*.

7. The Select User Group Preemption Level window will appear.

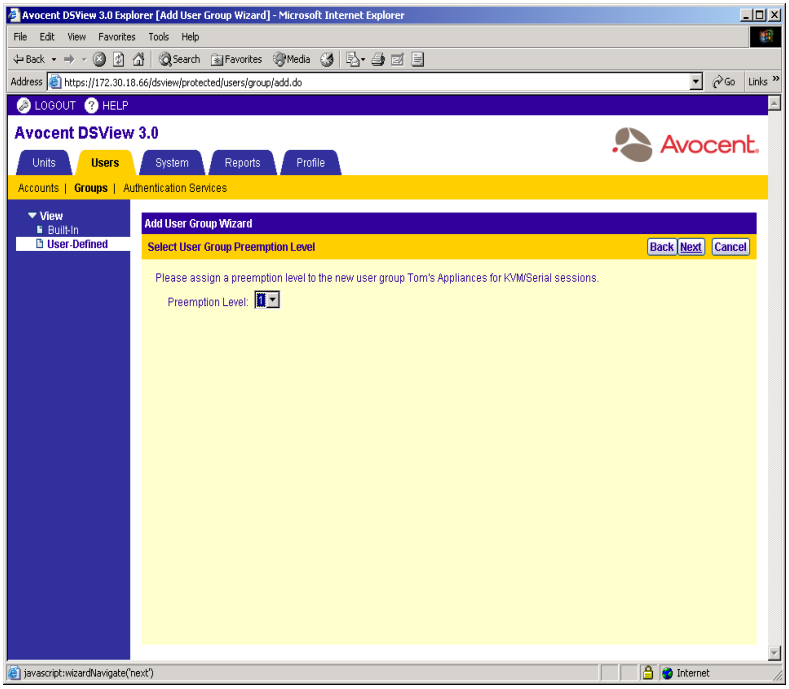


Figure 8.32: Add User Group Wizard - Select User Group Preemption Level Window

a. Type a preemption level (from 1-4) in the field, or select it using the drop-down menu. See *User Preemption Levels* on page 21 for more information on preemption levels.

b. Click *Next*.

8. The Completed Successful window will appear. Click *Finish*. The user group has been added.

Deleting user-defined user groups

You may delete any user-defined user groups that have been created in the DSView system.

NOTE: You must have DSView Administrator or User Administrator rights to add or delete user-defined user groups.

To delete a user-defined user group:

1. From the User Groups - User Defined window, click the checkbox to the left of the user groups you wish to delete.

   -or-

   Click the checkbox to the left of Name at the top of the list to select all user groups listed in the window for deletion.

2. Click *Delete*. A confirmation dialog box will appear.

3. Click *Yes* to delete the DSView user group(s)

   -or-

   Click *No* to cancel the action.

Viewing and modifying user group members

Clicking on the name of a built-in or user-defined user group allows you to do the following:

- View the properties of a built-in user group or view and modify the properties of user-defined user groups
- View, assign or remove user-defined user group members (DSView Internal authentication only)
- View the access rights of built-in and user-defined user group members

Viewing built-in user group properties

Each built-in user group contains the following read-only properties that you may view:

- Name - The name of the built-in user group.
- Type - The type of user group, which is always Built-in.
- Preemption Level - The preemption level assigned to the built-in user group. See *User Preemption Levels* on page 21 for information on preemption levels.

To view the properties of a built-in user group:

1. From the User Groups - Built-in window, click on a user group name. The User Group Properties window will appear.

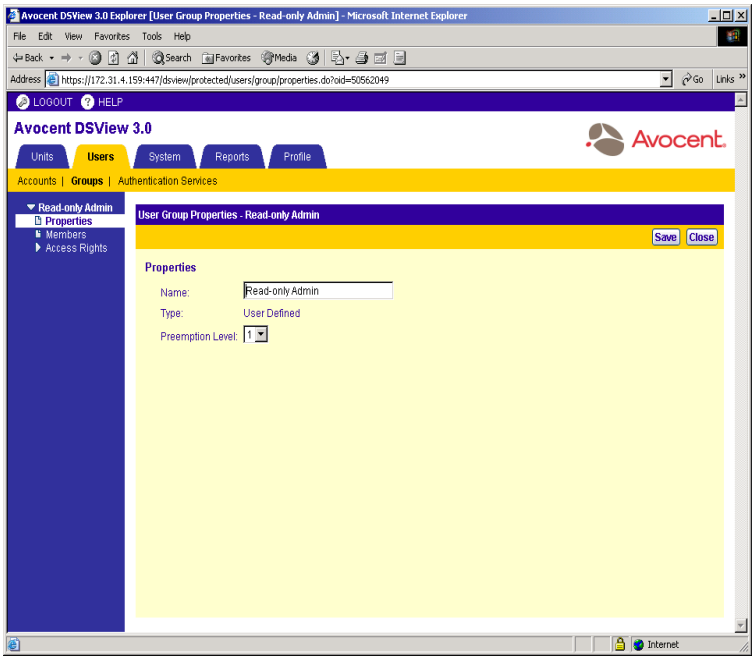


Figure 8.33: User Group Properties Window

2. Click *Close* when you are finished. The User Groups - Built-in window will appear.

Viewing and modifying user-defined user group properties

Each user-defined user group contains the following properties that you may view or modify:

- Name - The name of the user-defined user group.
- Type - The type of user group, which is always User Defined.
- Preemption Level - The preemption level assigned to the user-defined user group. See *User Preemption Levels* on page 21 for information on preemption levels.

To view the properties of a user-defined user group:

1. From the User Groups - User Defined window, click on the name of a user group. *Properties* will be automatically selected in the side navigation bar and the User Group Properties window will appear. The side navigation bar includes the name of the user group at the top.
2. Do any of the following:
   - To change the name of the user group, type a new name in the Name field.
   - To change the preemption level, type a number (from 1-4) in the Preemption Level field, or select it using the drop-down menu. The higher the number, the higher the preemption level. For example, a DSView user with a preemption level of 4 can preempt DSView

users assigned preemption levels of 1, 2 or 3. See *User Preemption Levels* on page 21 for more information on preemption levels.

- To change the role of the user group, select a role from the drop-down menu. If you do not wish to assign a role to the user group, select None.

3. Click *Save* to save your changes.
4. Click *Close*. The User Groups - User Defined window will appear including any modifications of the name or preemption level.

Viewing, assigning and removing user group members

When a DSView user is created, the DSView user may be assigned to one or more built-in or user-defined user groups. You may display the DSView users assigned as members of the built-in and user-defined user groups or assign or remove DSView users to or from the built-in and user-defined user groups.

NOTE: You may also remove a DSView user from a built-in or user-defined user group by clicking on a DSView username in a User Accounts window and modifying its user group membership. See *Changing DSView user group membership* on page 235 for information on using this method to remove a DSView user from a user group.

By default, the same fields in the User Accounts window are on by default and are available for display in the User Group Members window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for more information.

To view, assign or remove a built-in or user-defined user group member:

NOTE: Members may only be assigned to or removed from user groups defined on the Internal DSView authentication server.

1. From the User Groups - Built-in window, click on a built-in user group name.

   -or-

   From the User Groups - User Defined window, click on a user-defined user group name.

   The User Group Properties window will appear.
2. From the side navigation bar, click *Members*. The User Group Members window will appear.

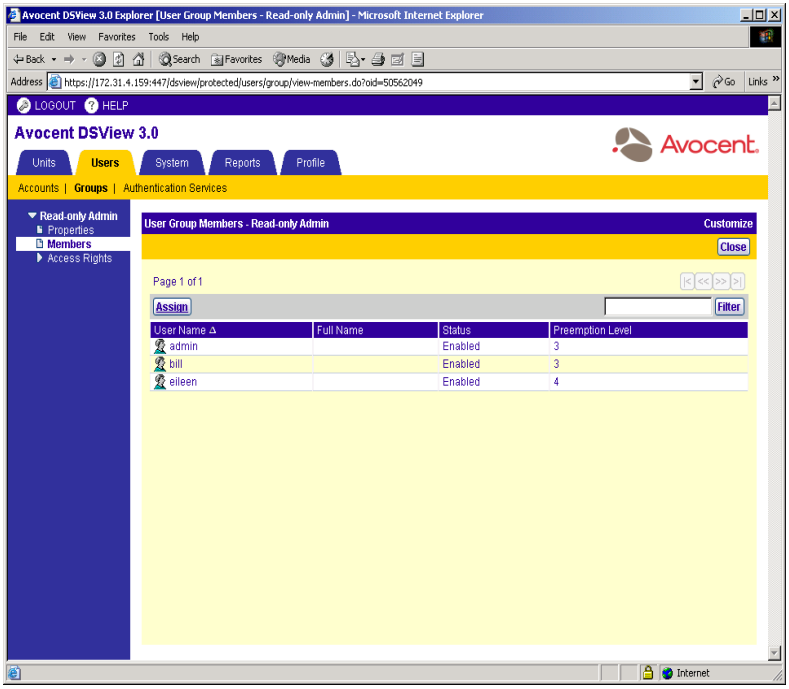


Figure 8.34: User Group Members Window

3. Click *Assign*. The Assign Users to User Group window will appear.

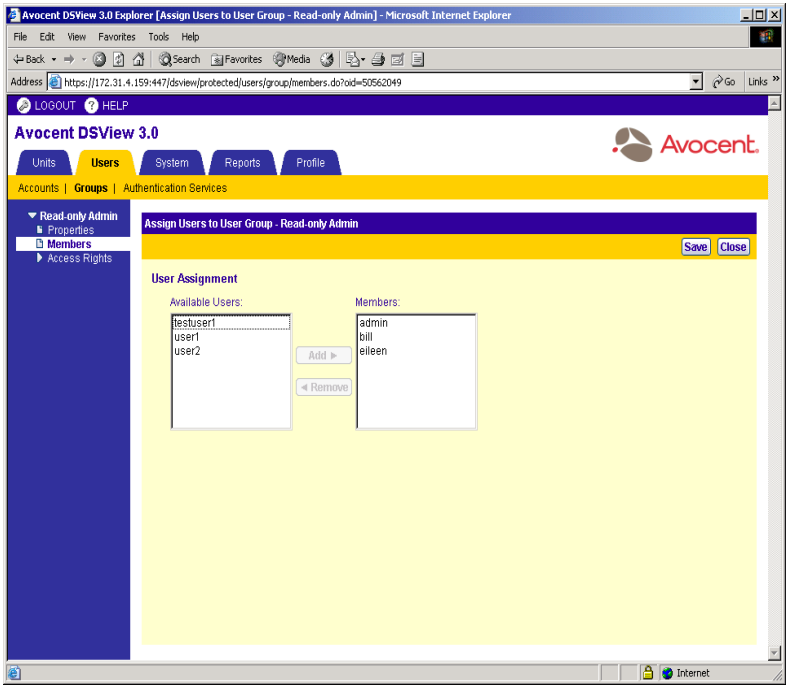


Figure 8.35: Assign Users to User Group Window

4. Add a DSView user to the user group:
   a. Select the DSView user to add in the Available Users list. Multiple DSView users may be selected by pressing **Ctrl** while clicking on the DSView users.
   b. Click *Add*. The DSView users will be moved to the Members list.

   -or-

   Remove a DSView user from the user group:
   a. Select the DSView user which you wish to remove in the Members list. Multiple DSView users may be selected by pressing **Ctrl** while clicking on the DSView users.
   b. Click *Remove*. The DSView users will be moved to the Available Users list.
5. Click *Save* to save your changes.
6. Click *Close*. The User Group Members window will appear including any modifications.
7. Click *Close*. The User Group - Built-In window will appear if you were viewing, assigning or removing built-in user group members. The User Group - User Defined window will appear if you were viewing, assigning or removing user-defined user group members.

Viewing the access rights of user group members

Different built-in and user-defined user groups provide different access rights for units. Access rights determine which actions you may or may not perform on a unit. You may view the units that belong to a built-in or user-defined user group and the access rights provided to each by the built-in or user-defined user group.

Target devices appear in the Target Device Access Rights window, while managed appliances appear in the Appliance Access Rights window.

Customizing the Target Device Access Rights and Appliance Access Rights windows

By default, the following columns display in the Target Device Access Rights window and may be removed by clicking the *Customize* link:

- Viewer Sessions - Displays whether or not a DSView user may open a DSView session with a target device using a Video Viewer window.
- Power Control - Displays whether or not a target device connected to an SPC device outlet may be powered up, powered down or have its power cycled.

By default, the following columns display in the Appliance Access Rights window and may be removed by clicking the *Customize* link:

- Reboot - Displays whether or not a DSView user assigned to the built-in user group may reboot the DSR switch or CPS appliance.
- Flash Upgrade - Displays whether or not a DSView user assigned to the built-in user group may FLASH upgrade the DSR switch or CPS appliance.
- Settings - Displays whether or not a DSView user assigned to the built-in user group may configure the settings of the managed appliance.
- Local Users - Displays whether or not a DSView user assigned to the built-in user group may configure the local user account of a DSR switch or CPS appliance.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

A check (√) will appear in the corresponding column if the access right is available for the unit. The column will be empty if the access right is not granted.

See *Modifying unit access rights* on page 161 for information on assigning and removing access rights to and from units.

To view the access rights of a target device in a user group:

1. From the User Groups - Built-in window, click on a user group name.

   -or-

   From the User Groups - User Defined window, click on a user group name.

   The User Group Properties window will appear.

2. From the side navigation bar, click *Access Rights*. *Target Devices* is automatically selected in the side navigation bar and the Target Device Access Rights window will appear.

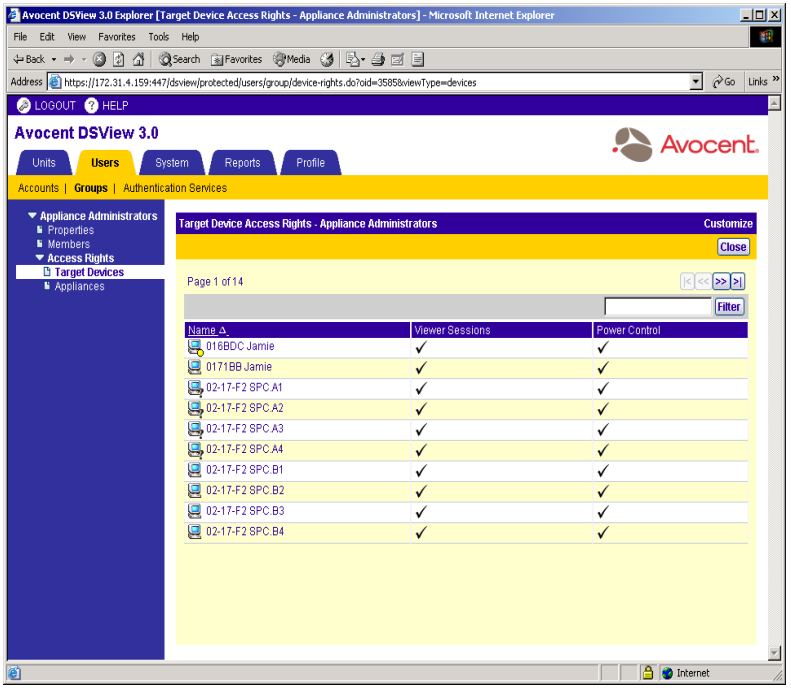


Figure 8.36: Target Devices Access Rights Window

3. Click *Close* when you are finished. The User Accounts - All window will appear.

To view the access rights of a managed appliance in a user group:

1. From the User Groups - Built-in window, click on a user group name.

   -or-

   From the User Groups - User Defined window, click on a user group name.

   The User Group Properties window will appear.

2. From the side navigation bar, click *Access Rights*. *Target Devices* is automatically selected in the side navigation bar and the Target Device Access Rights window will appear.

3. From the side navigation bar, click Appliances. The Appliance Access Rights window will appear.

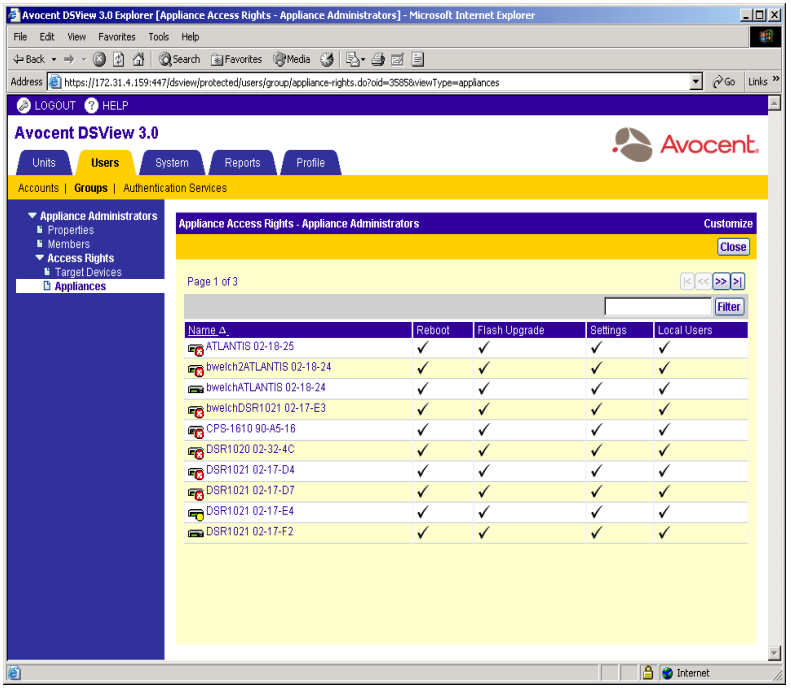


Figure 8.37: Appliance Access Rights Window

4. Click *Close* when you are finished. The User Accounts - All window will appear.

CHAPTER 9

Using DSView 3.0 Management Software Tools

About Tools

The DSView software contains tools that may be used to perform various actions on units, which are managed appliances (DSR switches, CPS serial over IP appliances, EVR1500 environmental monitor and control appliances and generic appliances) and target devices.

Using Unit Tools

The Unit tools window contains tools that allow a DSView user to:

- Export unit information into a .csv (comma separated value) file.
- Export the access rights information for units in to .csv file.
- Merge two or more target devices into a single target device

To display the Unit Tools window:

1. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, click *Tools*. The Unit Tools window will appear.

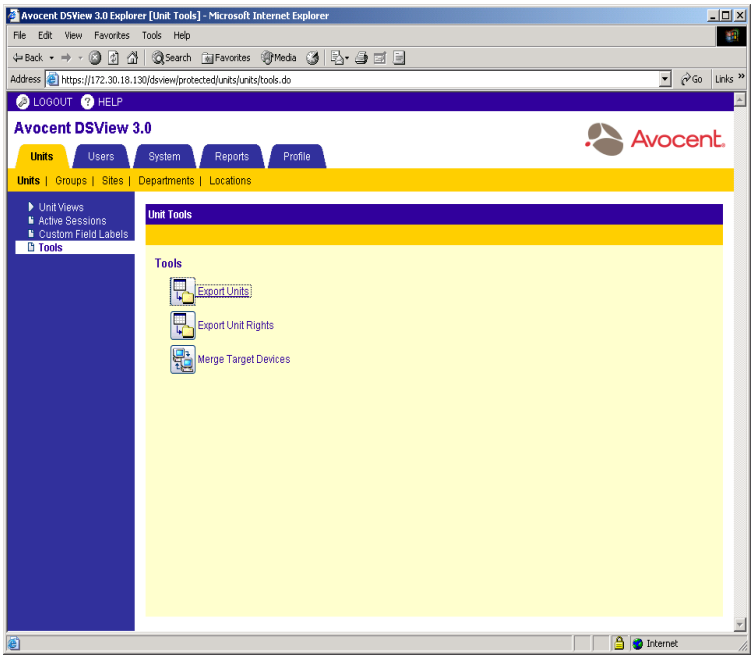


Figure 9.1: Units Tools Window

Exporting units

The Export Units tool will export information about units into a .csv file with the default name unitproperties.csv. You may change the name of the file when it is saved.

The following information may be selected for export:

- Name - The name of the unit. See *Modifying unit overview information* on page 147 for information on assigning a name to a unit.
- Action - The default action that may be performed on a target device, CPS appliance, EVR1500 environmental monitor or generic appliance. See *Customizing Unit Views windows* on page 127 for information on how the DSView software specifies the default action.
- Browser URL - The web address of target devices, CPS appliances, EVR1500 environmental monitor or generic appliances.
- Custom Field 1-3 - The custom fields that have been assigned to units. By default, these names are Custom Field 1, Custom Field 2 and Custom Field 3, but may be changed. If you have changed the custom field names for units, the custom field names you defined will appear instead of Custom Field 1, Custom Field 2 and Custom Field 3. See *Modifying unit custom field properties* on page 155 and *Managing Units using Custom Fields* on page 323 for information on custom fields.

- Department - The department name assigned to units. See *Modifying unit location properties* on page 153 for information on assigning a unit to a department.
- DSView Server - The name of the DSView Server associated with units. See *DSView Server* on page 55 for information on the DSView Server.
- IP Address - The IP address of units. See *Modifying unit network properties* on page 157 for information on changing the IP address.
- Location - The location (such as a room number) assigned to units. See *Modifying unit location properties* on page 153 for information on assigning a unit to a location.
- Model Number - The model numbers of units. See *Modifying unit identity properties* on page 151 for more information.
- Part Number - The part numbers of units. See *Modifying unit identity properties* on page 151 for more information.
- Primary Contact - The name of the primary person to contact who is responsible for a unit. See *Modifying unit contact properties* on page 154 for information on assigning a primary contact.
- Primary Contact Phone - The phone number of the primary contact. See *Modifying unit contact properties* on page 154 for information on assigning a primary contact phone number.
- Secondary Contact - The name of the secondary person to contact for a unit if the primary contact is unavailable. See *Modifying unit contact properties* on page 154 for information on assigning a secondary contact.
- Secondary Contact Phone - The phone number of the secondary contact. See *Modifying unit contact properties* on page 154 for information on assigning a secondary contact phone number.
- Serial Number - The serial numbers of units. See *Modifying unit identity properties* on page 151 for information on assigning a serial number.
- Site - The site to which a unit is assigned. See *Modifying unit location properties* on page 153 for information on assigning a site.
- Status - The status of the unit at the time the export was performed. See *Customizing Unit Views windows* on page 127 for information on the possible status of units.
- Telnet Port - The port number used for a Telnet connection to a target device by a DSView Client. See *Modifying unit network properties* on page 157 for specifying a Telnet port number.
- Type - The unit type property for the units.
- Visibility - The currently visible action for a unit. Show will appear if the unit is invisible and may be shown. Hide will appear the unit is visible and may be hidden. See *Showing and hiding units* on page 126 for information on showing and hiding.

The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

To export units:

1. From the Unit Tools window, click the *Export Units* icon or link. The Welcome page of the Export Units Wizard will appear.

   Click *Next*.

2. The Select Unit Properties to Export window will appear.

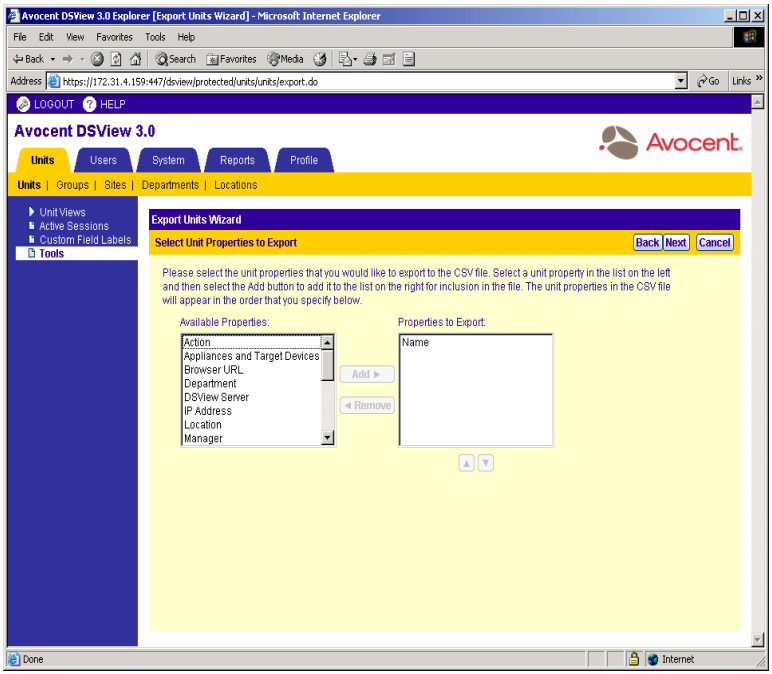

Avocent DSView 3.0 Explorer [Export Units Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/export.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Active Sessions
Custom Field Labels
Tools
Export Units Wizard
Select Unit Properties to Export
Back Next Cancel
Please select the unit properties that you would like to export to the CSV file. Select a unit property in the list on the left and then select the Add button to add it to the list on the right for inclusion in the file. The unit properties in the CSV file will appear in the order that you specify below.
Available Properties:
Action
Appliances and Target Devices
Browser URL
Department
DSView Server
IP Address
Location
Manager
Add
Remove
Properties to Export:
Name
Done
Internet

Figure 9.2: Export Units Wizard - Select Unit Properties to Export Window

3. Specify the properties you wish to export:
   a. Select the properties in the Available Properties list. Multiple properties may be selected by pressing **Ctrl** or **Shift** while clicking on the property names.
   b. Click *Add*. The properties will be moved to the Properties to Export list.

NOTE: To remove selected properties, select the property you wish to remove from the Properties to Export list (multiple properties may be selected by pressing **Ctrl** while clicking on the property names) and clicking *Remove*. The properties will be moved to the Available Properties list.

   c. To change the order in which properties are listed in the output .csv file, select the properties in the Properties to Export list and use the up and down arrows to move the selected properties up or down in the listing. Multiple properties may be selected by pressing **Ctrl** or **Shift** while clicking on the property names.

d. Click *Next*.

4. The Save Process window will appear. Click *Next*.
5. The Completed Successful window will appear, along with a File Download dialog box.

   Click *Open*. The file will download and open. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to use for opening the .csv file.

NOTE: The default file name of the .csv file is unitproperties.csv. Subsequent files that you export will be incremented. (unitproperties[1].csv, unitproperties[2].csv and so on)

-or-

Click *Save*. The Save As dialog box will appear. Select a directory and file name and click *Save* to save the .csv file.

-or-

Click *Cancel* to cancel the action.

6. Click *Finish*. The Units Tools window will appear.

Exporting unit rights

The Export Unit Rights tool will export permission information about units from the DSView software host. Managed appliance information will be exported into a .csv file with the default name appliance_rights.csv. Target device information will be exported into a .csv file with the default name target_device_rights.csv. You may change the names of the files when they are saved.

The following information will be exported for managed appliances:

- Appliance - The name of the managed appliance. See *Modifying unit overview information* on page 147 for information on assigning a name to a managed appliance.
- User/User Group - The DSView user or user group to which the managed appliance has any or all rights for the unit. See *Managing DSView Users using User Groups* on page 329 for information on user groups.
- Reboot - Specifies whether the DSView user or user group has the right to perform a reboot on a DSR switch or CPS appliance. See *Modifying unit access rights* on page 161 for specifying rebooting of a DSR switch or CPS appliance.
- Flash Upgrade - Specifies whether the DSView user or user group has the right to perform a FLASH upgrade on a DSR switch or CPS appliance. See *Modifying unit access rights* on page 161 for specifying the FLASH upgrading of a DSR switch or CPS appliance.
- Settings - Specifies whether the DSView user or user group has the right to configure appliance settings, not including the right to manage local user accounts on the appliance. See *Modifying managed appliance settings* on page 165 for information on changing the system settings of a managed appliance.

- Local Users - Specifies whether the DSView user or user group has the right to manage local users on the DSR switch or CPS appliance. See *Modifying local account settings on DSR switches and CPS appliances* on page 204 for information on specifying local users for a DSR switch or CPS appliance.

The following information will be exported for target devices:

- Target Device - The name of the target device. See *Modifying unit overview information* on page 147 for information on assigning a name to a managed appliance.
- User/User Group - The DSView user or user group to which DSR switches or CPS appliances have any or all rights for the target device. See *Managing DSView Users using User Groups* on page 329 for information on user groups.
- Viewer Sessions - Specifies whether the DSView user or user group has the right to launch a KVM or Serial session with the target device. See *Launching a KVM session* on page 242 for information on launching a KVM session.
- Power Control - Specifies whether the DSView user or user group has the right to perform power control operations on the target device. See *Modifying unit access rights* on page 161 for information on specifying power control settings.

The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

To export unit rights:

1. From the Unit Tools window, click the *Export Unit Rights* icon or link. The Welcome page of the Export Unit Rights Wizard will appear. Click *Next*.
2. The Select Unit Type window will appear.

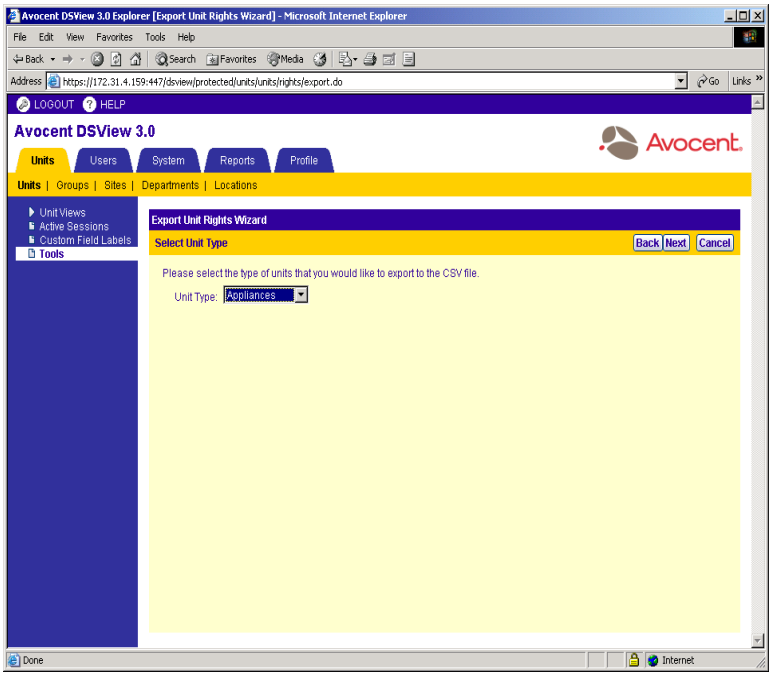

Avocent DSView 3.0 Explorer [Export Unit Rights Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/rights/export.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Active Sessions
Custom Field Labels
Tools
Export Unit Rights Wizard
Select Unit Type
Back Next Cancel
Please select the type of units that you would like to export to the CSV file.
Unit Type: Appliances
Done
Internet

Figure 9.3: Export Unit Rights Wizard - Select Unit Type Window

a. Select **Appliances** to export the rights for managed appliances in your DSView system.

   -or-

   Select **Target Devices** to export the rights for target devices in your DSView system.

b. Click *Next*.

3. The Save Process window will appear. Click *Next*.
4. The Completed Successful window will appear, along with a File Download dialog box.
5. Click *Open*. The file will download and open. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to use for opening the .csv file.

NOTE: The default file name of the .csv file is appliance_rights.csv if you are exporting CPS appliance and DSR switch rights or target_device_rights.csv if you are exporting target device rights. Subsequent files that you export will be incremented. (target_device_rights[1].csv, target_device_rights[2].csv and so on)

-or-

Click *Save*. The Save As dialog box will appear. Select a directory and file name and click *Save* to save the .csv file.

-or-

Click *Cancel* to cancel the action.

6. Click *Finish*. The Units Tools window will appear.

Merging target devices

Use the Merge Target Devices tool to merge two or more target devices into a single target device.

Using the Merge Target Devices tool may be necessary if a target device is connected to one or more DSR switches and/or CPS appliances. For example, if a target device is connected to a both a DSR switch and a CPS appliance, using the Merge Target Devices wizard will merge the targets devices created when the DSR switch and CPS appliance were added into a single target device that contains all of the target actions.

To merge target devices:

1. From the Unit Tools window, click the *Merge Target Devices* icon or link. The Welcome page of the Merge Target Devices Wizard will appear. Click *Next*.
2. The Select Target Devices to Merge window will appear.

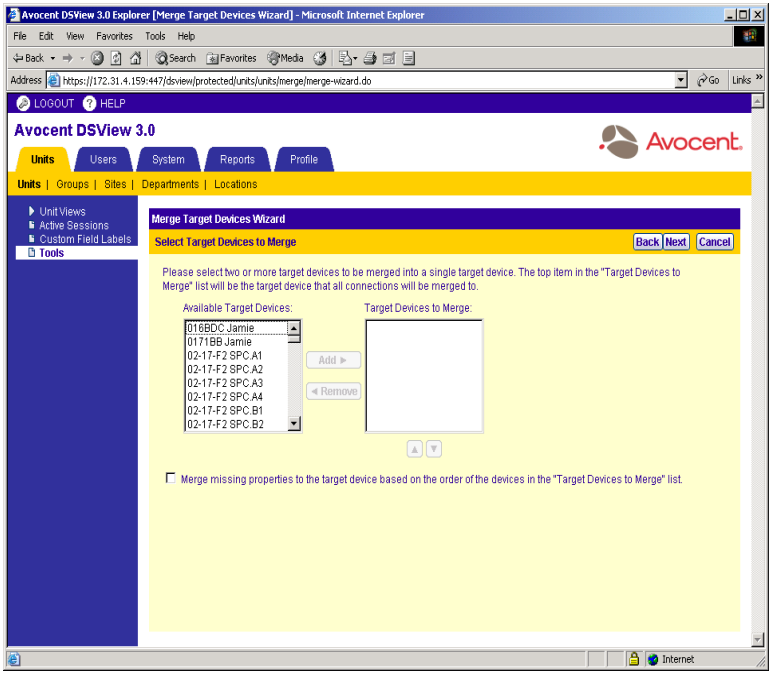

Avocent DSView 3.0 Explorer [Merge Target Devices Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/merge/merge-wizard.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Active Sessions
Custom Field Labels
Tools
Merge Target Devices Wizard
Select Target Devices to Merge
Back Next Cancel
Please select two or more target devices to be merged into a single target device. The top item in the "Target Devices to Merge" list will be the target device that all connections will be merged to.
Available Target Devices:
Target Devices to Merge:
016BDC Jamie
0171BB Jamie
02-17-F2 SPC.A1
02-17-F2 SPC.A2
02-17-F2 SPC.A3
02-17-F2 SPC.A4
02-17-F2 SPC.B1
02-17-F2 SPC.B2
Add
Remove
Merge missing properties to the target device based on the order of the devices in the "Target Devices to Merge" list.
Internet

Figure 9.4: Merge Target Devices Wizard - Select Target Devices to Merge Window

3. Specify the target devices you wish to merge:
   a. Select the target devices in the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names.
   b. Click *Add*. The target devices will be moved to the Target Devices to Merge list.

NOTE: To remove selected target devices, select the target device you wish to remove from the Target Devices to Merge list (multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names) and clicking *Remove*. The target devices will be moved to the Available Target Devices list.

c. To merge target devices in a particular order, select the target devices in the Target Devices to Merge list and use the up and down arrows to move the selected target devices up or down in the listing. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names. Once the order has been specified, select *Merge missing properties to the target device based on the order of the devices in the "Target Devices to Merge" list*.

NOTE: The merged target devices will contain the name of the first target device in the Target Device to Merge list. For example, if you are merging two target devices named TD1 and TD2 and TD2 is listed before TD1, the merged target device will be named TD2.

d. Click *Next*.

4. The Confirm Target Device Merge window will appear.

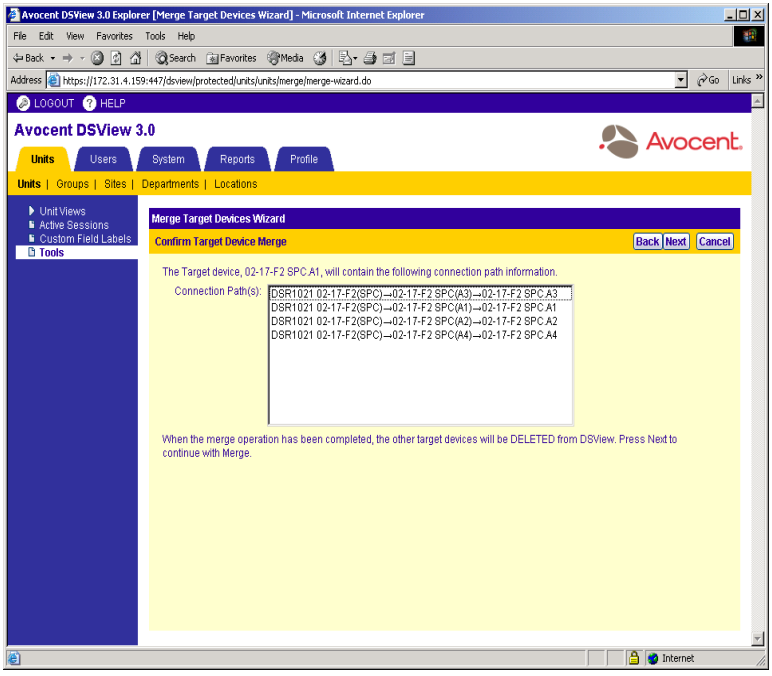

Avocent DSView 3.0 Explorer [Merge Target Devices Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/merge/merge-wizard.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
Unit Views
Active Sessions
Custom Field Labels
Tools
Merge Target Devices Wizard
Confirm Target Device Merge
Back Next Cancel
The Target device, 02-17-F2 SPC.A1, will contain the following connection path information.
Connection Path(s):
DSR1021 02-17-F2(SPC)→02-17-F2 SPC(A3)→02-17-F2 SPC.A3
DSR1021 02-17-F2(SPC)→02-17-F2 SPC(A1)→02-17-F2 SPC.A1
DSR1021 02-17-F2(SPC)→02-17-F2 SPC(A2)→02-17-F2 SPC.A2
DSR1021 02-17-F2(SPC)→02-17-F2 SPC(A4)→02-17-F2 SPC.A4
When the merge operation has been completed, the other target devices will be DELETED from DSView. Press Next to continue with Merge.
Internet

Figure 9.5: Merge Target Devices Wizard - Confirm Target Device Merge Window

Click *Next* to confirm merging the connection paths into the specified destination target device. See *Managing connections to units* on page 216 for information on connection paths.

5. The Completed Successful window will appear.

6. Click *Finish*. The Units Tools window will appear.

Using DSR Switch and CPS Appliance Tools

The DSView software contains tools that allow you to perform the following actions on a DSR switch or CPS appliance:

- Reboot a DSR switch or CPS appliance
- Upgrade the firmware on a DSR switch or CPS appliance
- Resynchronize a DSR switch or CPS appliance so that it reflects the current DSView system configuration
- Save or restore the configuration of a DSR switch or CPS appliance
- Save or restore the database of local users in a DSR switch or CPS appliance

These tools are accessed from the Unit Overview window, which is displayed when you click on the name of a DSR switch or CPS appliance.

To display the Unit Tools window:

1. From the DSView 3.0 Explorer window, click *Units* in the tab bar. *Units* will automatically be selected in the top navigation bar and a list of links will appear in the side navigation bar.
2. From the side navigation bar, do one of the following:
   - Click *Appliances*. The Appliances - All window will appear. You may also click on a link below Appliances to display only specific types of DSR switches or CPS appliances in an Appliances window.
   - Click *Sites* and then click on a site link. A Units in Site window will appear.
   - Click a custom field label and then the appropriate label that you specified for the DSR switch or CPS appliance. The Units in Custom Fields window will appear.
   - If the DSR switch or CPS appliance have been recently accessed, click *Recently Accessed* to display the Recently Accessed Units window.
3. Click on the name of a DSR switch or CPS appliance. *Overview* will automatically be selected in the side navigation bar and the Unit Overview window will appear. The tools will appear in the Tools area of the window.

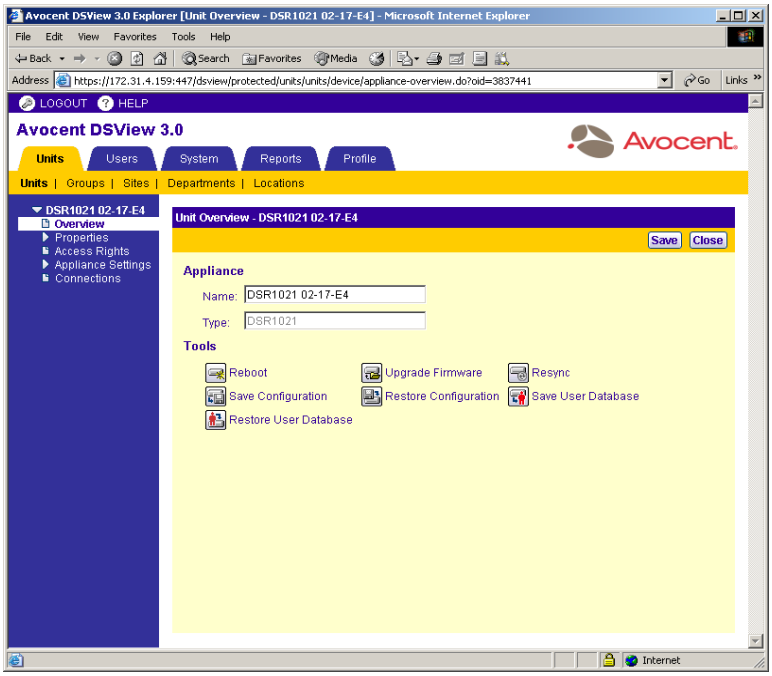


Figure 9.6: Unit Overview Window

Rebooting DSR switches and CPS appliances

NOTE: To reboot a DSR Switch or CPS appliance, you must have been granted Reboot Appliance access rights for the DSR Switch or CPS appliance in the Access Rights window. By default, DSView users who are members of the DSView Administrators, User Administrators and Appliance Administrators built-in groups have this access right. See *Modifying unit access rights* on page 161 for more information.

You may reboot a DSR switch or CPS appliance using the Reboot tool in the Unit Overview window.

NOTE: When a DSR switch or CPS appliance is rebooted, all active sessions will be disconnected.

To reboot a DSR switch or CPS appliance:

1. Click the *Reboot* icon or link. A confirmation dialog box will appear.
2. Click *Yes* to reboot the DSR switch or CPS appliance.

   -or-

   Click *No* to cancel the action.

Upgrading the firmware on DSR switches and CPS appliances

You may manually upgrade the firmware on a DSR switch or CPS appliance using the Upgrade Firmware tool in the Unit Overview window.

NOTE: A valid FLASH file must exist in the DSView Server's firmware repository for the DSR switch or CPS appliance to use this command.

NOTE: Optionally, one or more DSR switches or CPS appliances may be FLASH upgraded as a task. See *Managing Tasks* on page 368 for more information.

To upgrade the firmware on a DSR switch or CPS appliance:

1. Click the *Upgrade Firmware* icon or link. The welcome page of the Upgrade Appliance Firmware Wizard will appear. Click *Next*.
2. The Select Flash Files window will appear.

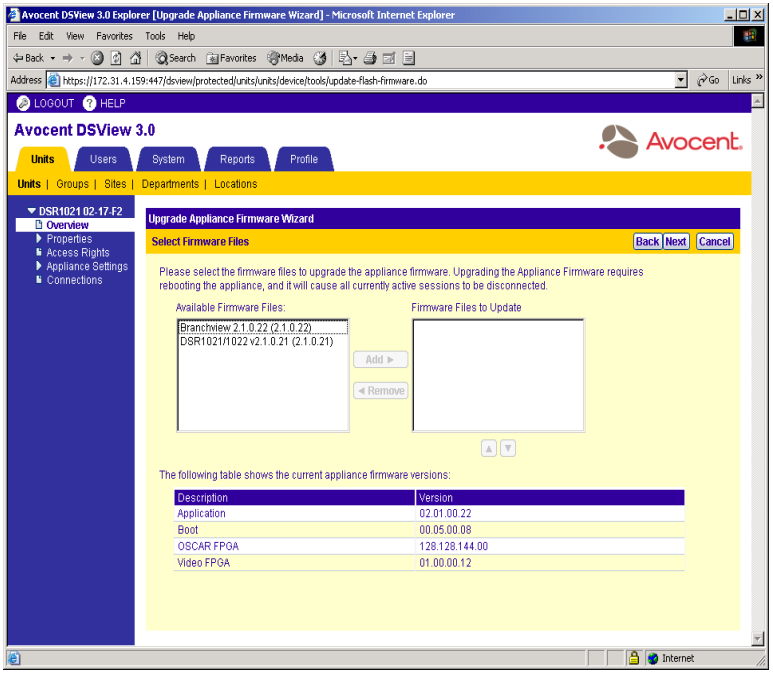

Avocent DSView 3.0 Explorer [Upgrade Appliance Firmware Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/device/tools/update-flash-firmware.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Upgrade Appliance Firmware Wizard
Select Firmware Files
Back Next Cancel
Please select the firmware files to upgrade the appliance firmware. Upgrading the Appliance Firmware requires rebooting the appliance, and it will cause all currently active sessions to be disconnected.
Available Firmware Files:
Branchview 2.1.0.22 (2.1.0.22)
DSR1021/1022 v2.1.0.21 (2.1.0.21)
Add
Remove
Firmware Files to Update
The following table shows the current appliance firmware versions:
Description Version
Application 02.01.00.22
Boot 00.05.00.08
OSCAR FPGA 128.128.144.00
Video FPGA 01.00.00.12
Internet

Figure 9.7: Upgrade Appliance Firmware Wizard - Select Firmware Files Window

Select the FLASH files to which you wish to upgrade the DSR switch or CPS appliance:

a. Select the FLASH files in the Available Firmware Files list. Multiple firmware files may be selected by pressing **Ctrl** or **Shift** while clicking on the firmware file names.

b. Click *Add*. The properties will be moved to the Firmware Files to Update list.

NOTE: To remove selected firmware files, select the firmware file you wish to remove from the Firmware Files to Update list (multiple firmware files may be selected by pressing **Ctrl or Shift** while clicking on the firmware file names) and clicking *Remove*. The firmware files will be moved to the Available Firmware Files list.

c. To change the order in which firmware files are installed to the DSR switch or CPS appliance, select the firmware files in the Firmware Files to Update list and use the up and down arrows to move the selected firmware files up or down in the listing. Multiple firmware files may be selected by pressing **Ctrl** or **Shift** while clicking on the firmware file names.

d. Click *Next*.

NOTE: When multiple firmware files are selected, the firmware on each DSR switch or CPS appliance will be upgraded in the order shown in the Update list. A reboot will be automatically performed between each firmware update.

3. The Type in Task Name window will appear.

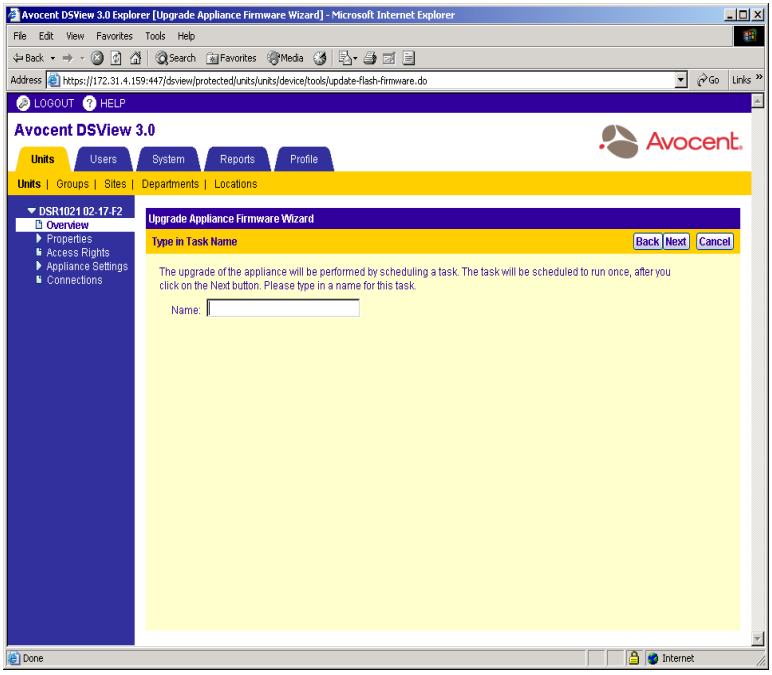

Avocent DSView 3.0 Explorer [Upgrade Appliance Firmware Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/device/tools/update-flash-firmware.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Upgrade Appliance Firmware Wizard
Type in Task Name
Back Next Cancel
The upgrade of the appliance will be performed by scheduling a task. The task will be scheduled to run once, after you click on the Next button. Please type in a name for this task.
Name:
Done
Internet

Figure 9.8: Upgrade Appliance Firmware Wizard - Type in Task Name Window

a. Type a name for the upgrade firmware task (1-64 characters).

b. Click *Next*.

4. The Completed Successful window will appear.

5. Click *Finish*. The Unit Overview window will appear.
6. The progress of the upgrade task can be checked by clicking the System tab and then clicking *Tasks*.in the top navigation bar.

Resynchronizing DSR switches and CPS appliances

When a DSR switch or CPS appliance changes, it may not be properly represented in the DSView system. For example, a target device may be added, removed or moved. Resynchronizing will update these and other changes made to the DSR switch or CPS appliance within the DSView system. You may resyncronize a DSR switch or CPS appliance using the Resync tool in the Unit Overview window.

Resynchronizing will force a check of the entire DSView system. The process requires a large amount of time and network bandwidth and should only be performed when necessary.

To resync a DSR switch or CPS appliance:

1. Click the *Resync* icon or link. The welcome page of the Resync Appliance Wizard will appear. Click *Next*.
2. The Select Resync Options window will appear.

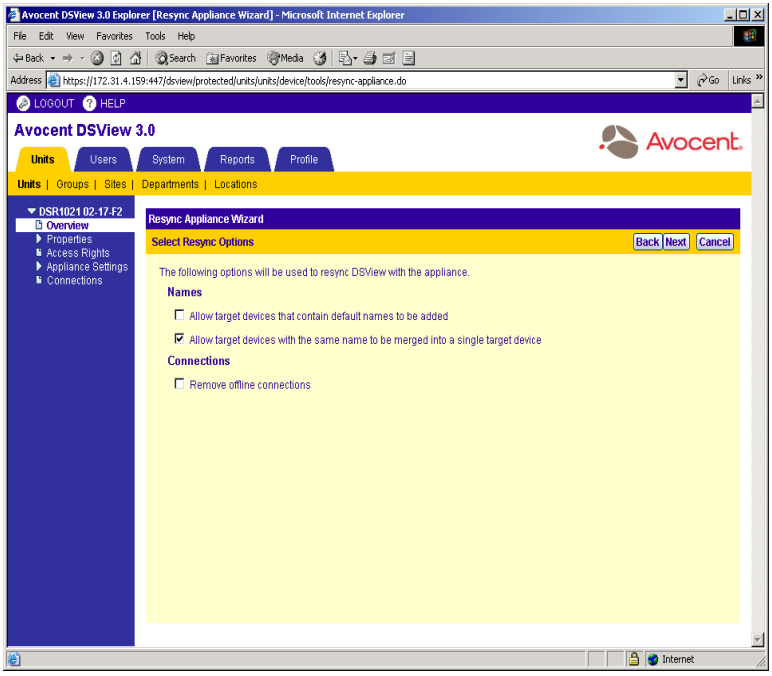

Avocent DSView 3.0 Explorer [Resync Appliance Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/device/tools/resync-appliance.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Resync Appliance Wizard
Select Resync Options
Back Next Cancel
The following options will be used to resync DSView with the appliance.
Names
Allow target devices that contain default names to be added
Allow target devices with the same name to be merged into a single target device
Connections
Remove offline connections
Internet

Figure 9.9: Resync Appliance Wizard - Select Resync Options Window

a. Click *Allow target devices that contain default names to be added* to allow target devices that have default names in the DSR switches and CPS appliances to be added to the DSView software database.

b. Click *Remove Offline connections* to remove any connections to target devices that are offline from the DSView system.

c. Click *Next*.

3. If the DSR switch or CPS appliance does not require resynchronizing, the Completed Successful window will appear.

   -or-

   If the DSR switch or CPS appliance requires resynchronizing, the Changes Detected in Appliance window will appear. Click *Next* and go to step 7.

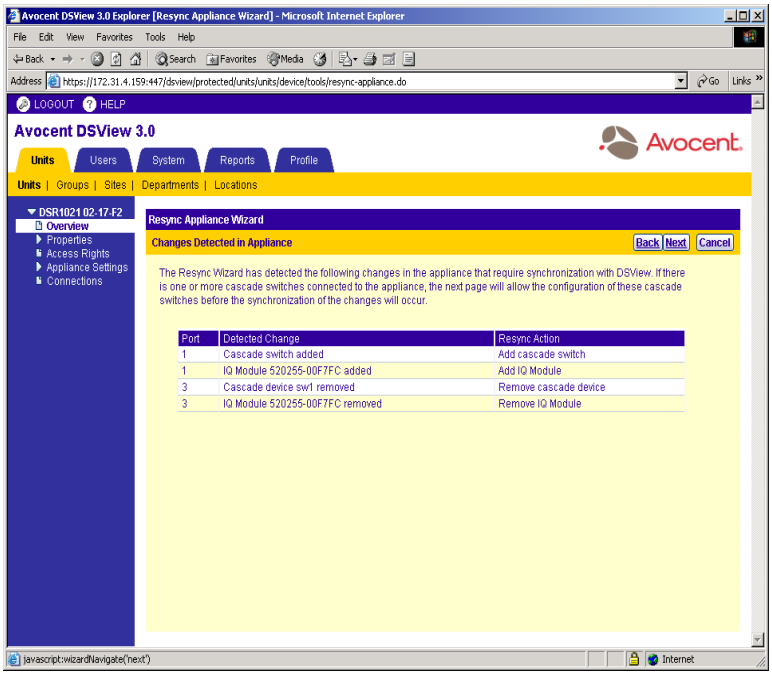

Avocent DSView 3.0 Explorer [Resync Appliance Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/device/tools/resync-appliance.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Resync Appliance Wizard
Changes Detected in Appliance
Back Next Cancel
The Resync Wizard has detected the following changes in the appliance that require synchronization with DSView. If there is one or more cascade switches connected to the appliance, the next page will allow the configuration of these cascade switches before the synchronization of the changes will occur.
Port Detected Change Resync Action
1 Cascade switch added Add cascade switch
1 IQ Module 520255-00F7FC added Add IQ Module
3 Cascade device sw1 removed Remove cascade device
3 IQ Module 520255-00F7FC removed Remove IQ Module
javascript:wizardNavigate('next')
Internet

Figure 9.10: Resync Appliance Wizard - Changes Detected in Appliance Window

-or-

If one or more cascade switches are attached to the DSR switch or CPS appliance, the Cascade Switch Configuration window will appear. Continue to step 4.

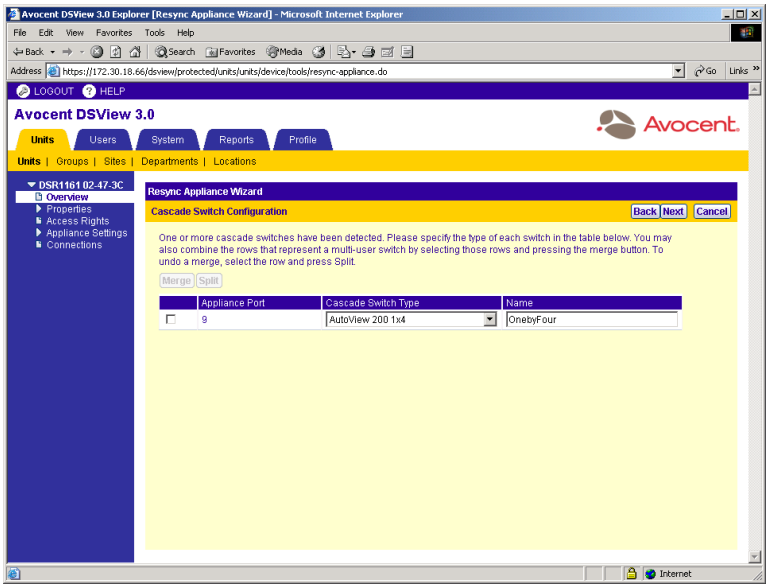

Avocent DSView 3.0 Explorer [Resync Appliance Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.30.18.66/dsview/protected/units/units/device/tools/resync-appliance.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1161 02-47-3C
Overview
Properties
Access Rights
Appliance Settings
Connections
Resync Appliance Wizard
Cascade Switch Configuration
Back Next Cancel
One or more cascade switches have been detected. Please specify the type of each switch in the table below. You may also combine the rows that represent a multi-user switch by selecting those rows and pressing the merge button. To undo a merge, select the row and press Split.
Merge Split
Appliance Port
Cascade Switch Type
Name
9
AutoView 200 1x4
OnebyFour
Internet

Figure 9.11: Resync Appliance Wizard - Cascade Switch Configuration Window

4. From the drop-down menu, select the type of each detected cascade switch. Available types are:
   - AutoView 2000
   - AutoView 200 1 x 4, 1 x 8, 2 x 4 or 2 x 8
   - AutoView 400 1 x 4, 1 x 8 or 2 x 8
   - AutoView 416 1 x 16, 2 x 16
   - AutoView 424 1 x 24, 2 x 24
   - Generic 1 x 4, 1 x 8, 1 x 16 or 1 x 24
   - Generic 2 x 4, 2 x 8, 2 x 16 or 2 x 24
   - Outlook 1160ES, 140ES, 180ES, 2160ES, 280ES or 4160ES
   - Unspecified
5. Type a name for each cascade switch.
6. If you wish, combine any multiuser cascade switches:
   a. Click the checkboxes of the cascade switches that you wish to merge.
   b. Click *Merge*.

NOTE: You may unmerge any cascade switches that you have merged by clicking the checkbox of the merged cascade switch and clicking *Split*.

7. Click *Next*. The Completed Successful window will appear.
8. Click *Finish*. The Unit Overview window will appear.

Saving the configuration of DSR switches and CPS appliances

You may save the configuration of a DSR switch or CPS appliance to a file using the Save Configuration tool in the Unit Overview window.

The configuration file will contain information about the DSR switch or CPS appliance, including the following:

- Global settings
- Port settings
- SNMP trap settings
- SNMP manager settings
- The names of connected target devices

For information on restoring a configuration file, see *Restoring the configuration of DSR switches and CPS appliances* on page 364.

To save the configuration of a DSR switch or CPS appliance to a file:

1. Click the *Save Configuration* icon or link. The welcome page of the Save Appliance Configuration Wizard will appear. Click *Next*.
2. The Type in File Description window will appear.

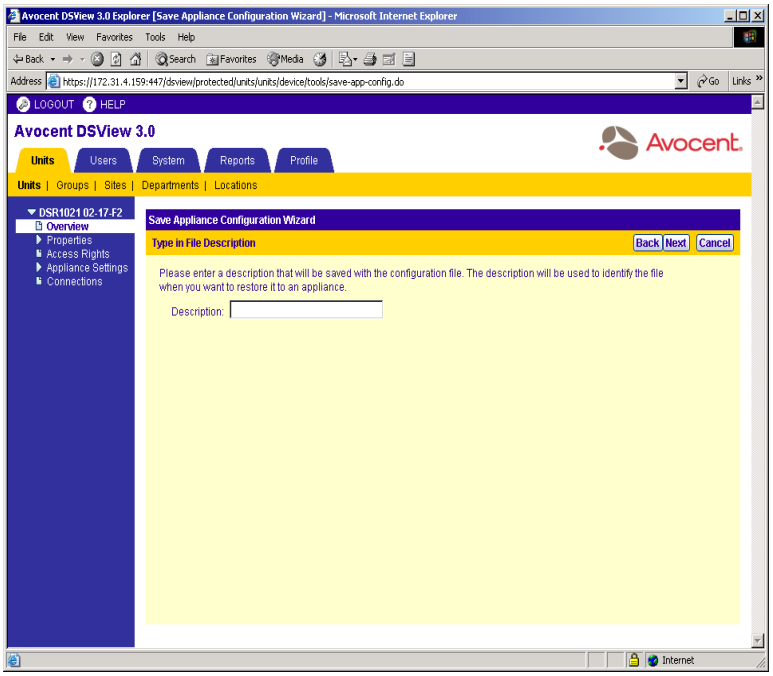

Avocent DSView 3.0 Explorer [Save Appliance Configuration Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/device/tools/save-app-config.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Save Appliance Configuration Wizard
Type in File Description
Back Next Cancel
Please enter a description that will be saved with the configuration file. The description will be used to identify the file when you want to restore it to an appliance.
Description:
Internet

Figure 9.12: Save Appliance Configuration Wizard - Type in File Description Window

a. Type a description of the configuration that will be saved and may be used if you wish to restore the configuration at a later time.

b. Click *Next*.

3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.

Restoring the configuration of DSR switches and CPS appliances

NOTE: Appliance Configuration files are stored in the DSView Server appliance files repository. You may view the available configuration files by selecting the *System* tab, selecting *Appliance Files* in the top navigation bar and selecting *Configuration* in the side navigation bar.

You may restore the configuration of a DSR switch or CPS appliance using the Restore Configuration tool in the Unit Overview window. To restore the configuration, a previously-saved configuration file must exist. See *Saving the configuration of DSR switches and CPS appliances* on page 363 for more information.

NOTE: The DSR switch or CPS appliance must be rebooted to enable the restored configuration file.

To restore the configuration of a DSR switch or CPS appliance:

1. Click the *Restore Configuration* icon or link. The Welcome page of the Restore Appliance Configuration Wizard will appear. Click *Next*.
2. The Select Configuration to Restore window will appear.

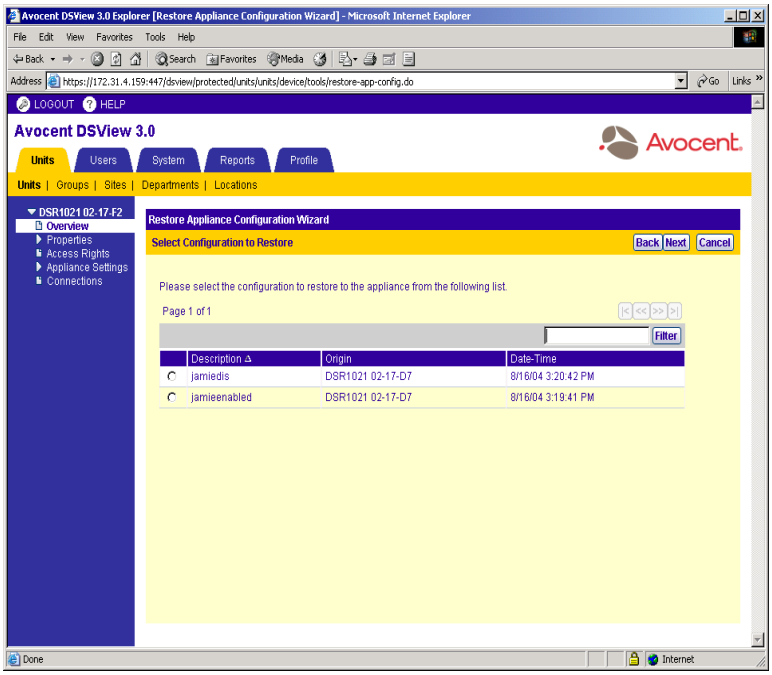


Figure 9.13: Restore Appliance Configuration Wizard - Select Configuration to Restore Window

   a. Click the radio button to the left of the file containing the configuration you wish to restore.
   b. Click *Next*.
3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.
5. Reboot the DSR switch or CPS appliance to enable the configuration. See *Rebooting DSR switches and CPS appliances* on page 357 for more information.

Saving the user database of a DSR switch or CPS appliance

You may save the local user database on a DSR switch or CPS appliance using the Save User Database tool in the Unit Overview window. For information on restoring a user database, see *Restoring the user database of a DSR switch or CPS appliance* on page 366.

To save the user database of a DSR switch or CPS appliance:

1. Click the *Save User Database* icon or link. The Welcome page of the Save Appliance User Database Wizard will appear. Click *Next*.
2. The Type in File Description window will appear.

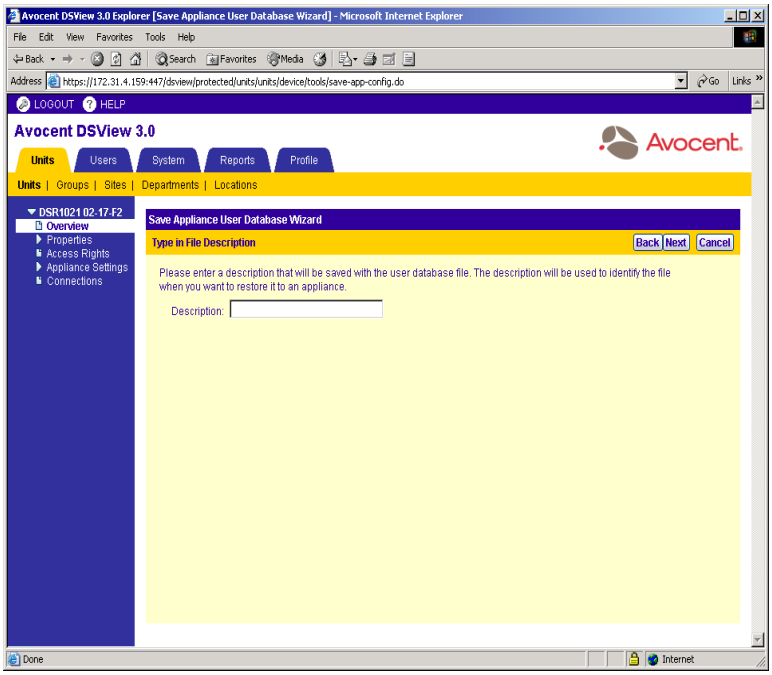

Avocent DSView 3.0 Explorer [Save Appliance User Database Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/units/units/device/tools/save-app-config.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
Units | Groups | Sites | Departments | Locations
DSR1021 02-17-F2
Overview
Properties
Access Rights
Appliance Settings
Connections
Save Appliance User Database Wizard
Type in File Description
Back Next Cancel
Please enter a description that will be saved with the user database file. The description will be used to identify the file when you want to restore it to an appliance.
Description:
Done
Internet

Figure 9.14: Save Appliance User Database Wizard - Type in File Description Window

   a. Type a description of the user database that will be saved and can be used if you wish to restore the database.
   b. Click *Next*.
3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.

Restoring the user database of a DSR switch or CPS appliance

NOTE: Database files are stored in the DSView Server appliance files repository. You may view the available database files by selecting the *System* tab, selecting *Appliance Files* in the top navigation bar and selecting *User Database* in the side navigation bar.

You may restore the local user database of a DSR switch or CPS appliance using the Restore User Database tool in the Unit Overview window. To restore the user database, a previously saved user

database file must exist. See *Saving the user database of a DSR switch or CPS appliance* on page 365 for more information.

NOTE: The DSR switch or CPS appliance must be rebooted to enable the restored user database file.

To restore the user database of a DSR switch or CPS appliance:

1. Click the *Restore User Database* icon or link. The Welcome page of the Restore Appliance User Database Wizard will appear. Click *Next*.
2. The Select User Database to Restore window will appear.

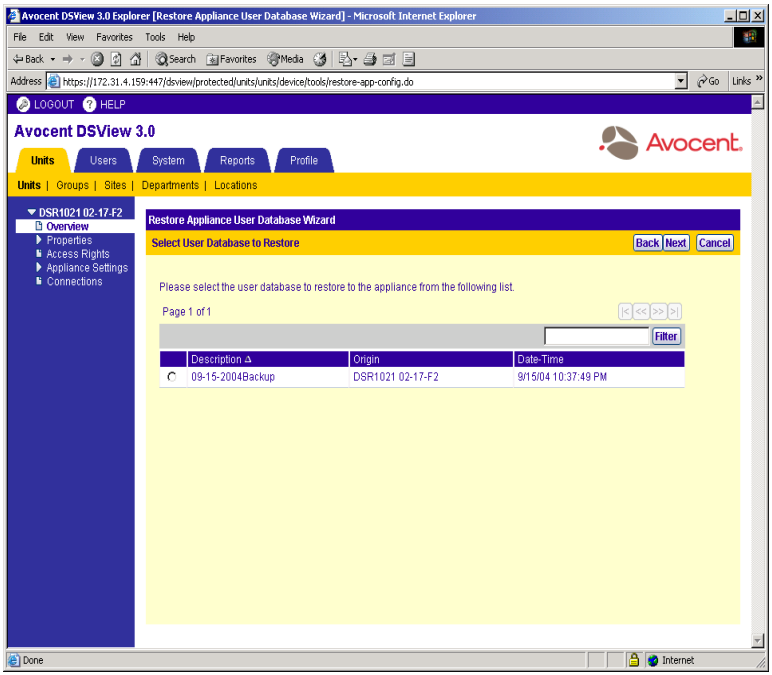


Figure 9.15: Restore Appliance User Database Wizard - Select User Database to Restore Window

   a. Click the radio button to the left of the DSR switch or CPS appliance user database you wish to restore.
   b. Click *Next*.
3. The Completed Successful window will appear.
4. Click *Finish*. The Unit Overview window will appear.
5. Reboot the DSR switch or CPS appliance to enable the user database. See *Rebooting DSR switches and CPS appliances* on page 357 for more information.

Managing Tasks

The Tasks window allows you to add, delete and modify tasks. The Tasks window lists all existing tasks configured in the DSView software and allows you to manually run tasks.

To display the tasks window:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Tasks*. The Tasks window will appear.

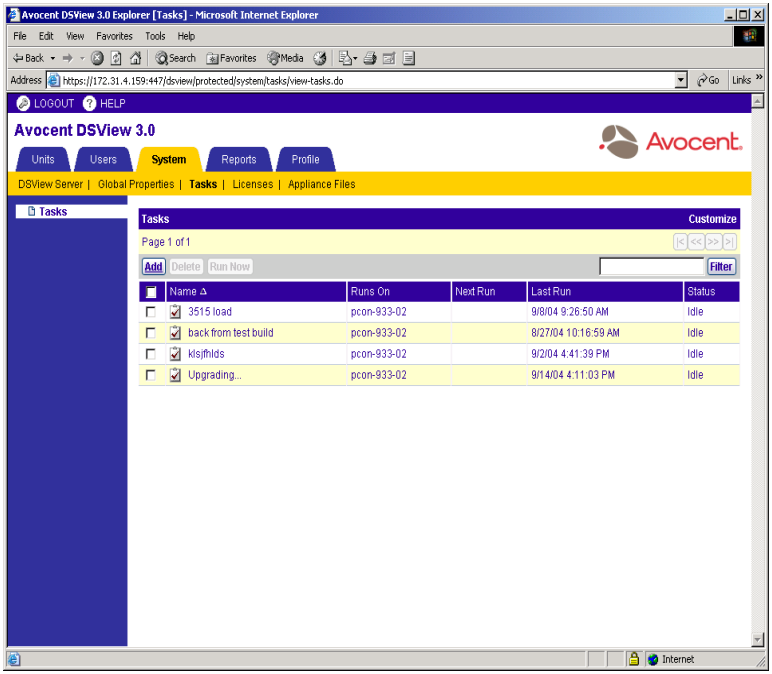

Avocent DSView 3.0 Explorer [Tasks] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/view-tasks.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Tasks Customize
Page 1 of 1
Add Delete Run Now Filter
Name Runs On Next Run Last Run Status
3515 load pcon-933-02 9/8/04 9:26:50 AM Idle
back from test build pcon-933-02 8/27/04 10:16:59 AM Idle
klsjfhlds pcon-933-02 9/2/04 4:41:39 PM Idle
Upgrading... pcon-933-02 9/14/04 4:11:03 PM Idle
Internet

Figure 9.16: Tasks Window

Customizing the Tasks window

By default, the following fields display in the Tasks window:

NOTE: The Next Run and Last Run fields will be blank for a task scheduled on a remote DSView Server.

- Runs On - Displays the server(s) on which the task will run.
- Next Run - Displays the next date and time on which the task is scheduled to run.
- Last Run - Displays the date and time of the last run of the task.
- Status - The status of a task. An icon will also appear in the Name column that represents the status of the task.

Table 9.1 lists and describes the status icons that will appear in the Tasks window.

Table 9.1: Task Status Icons

Icon	Task
	Idle - A task that is not currently running.
	Running - A task that is currently occurring.
	Stopping - A task that has run but not completely stopped.
	Disabled - A task that is prevented from executing.
	Remote - A task that is scheduled on a remote DSView Server.

The following field may be displayed in the Tasks window by clicking the *Customize* link:

- Schedule - Displays the how often and when the task is scheduled to run.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

Adding tasks

You use the Add Task Wizard to create tasks. Click *Add* in the Tasks window to display the Welcome page of the Add Task Wizard.

When you click *Next* in the Welcome page of the Add Task Wizard, the Select Task to Add window will appear.

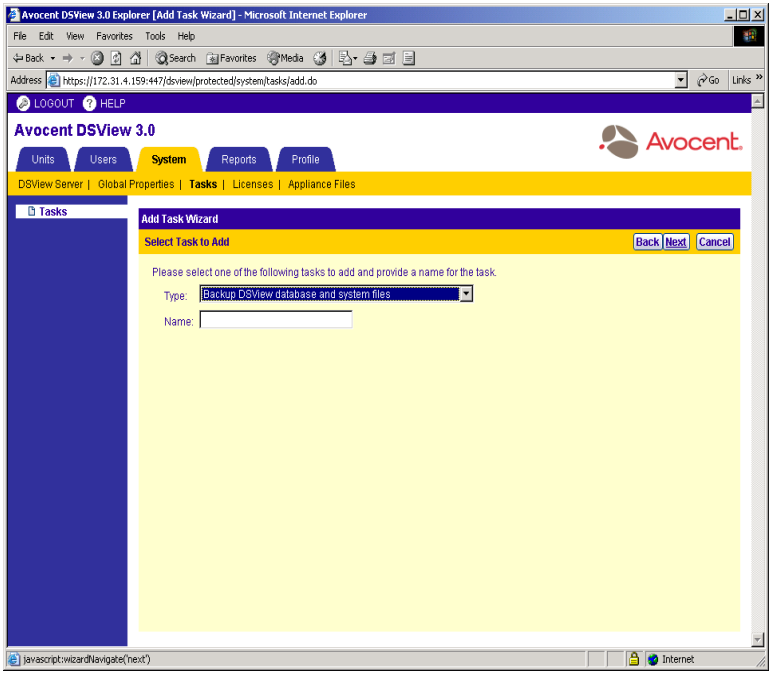

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Task to Add
Back Next Cancel
Please select one of the following tasks to add and provide a name for the task.
Type: Backup DSView database and system files
Name:
javascript:wizardNavigate('next')
Internet

Figure 9.17: Select Task to Add Window

Use the Select Task to Add window to choose the type of task you wish to run and to name the task. Clicking *Next* will allow you to specify information on when and how often to run the task Once you have specified the time and frequency for running the task, the wizard will prompt you for task-specific information required by the DSView software for running the task.

You may choose to run the following tasks using the Select Task to Add window:

- Backup DSView database and system files - This command creates a compressed .zip file containing a backup of your DSView system. The backup file contains everything necessary to fully restore the Hub DSView Server, such as DSView users, user groups, units, unit group, properties, permission, global settings, macros, and so on. The system backup may be created as an encrypted or unencrypted file and may be stored on a local drive on the DSView Server or at a location specified using a Universal Naming Convention (UNC) path. The backup file is named dsviewBackup.zip by default, but you may also specify to append the date and time to the end of the backup file name.

NOTE: If a backup is restored to a server with a different IP address, managed appliances may not be able to authenticate until the new DSView Server IP address has been programmed into the managed appliances.

- Configure SNMP trap settings on appliance - This command turns SNMP traps on or off for one or more DSR switches or CPS appliances of a particular type. First, select the unit groups containing the DSR switches or CPS appliances. Next, select the type of DSR switch or CPS

appliance (CPS1610, DSR1021, and so on), followed by the particular DSR switches or CPS appliances. Finally, specify which traps you wish to turn on and off on the selected DSR switches or CPS appliances. To specify SNMP trap settings for other types of DSR switches or CPS appliances, you must create additional tasks.

- Control power of target devices - This command powers up, powers down, or cycles the power (power down and then power up) of one or more target devices. First, select the unit groups containing the target devices. Then, select the target devices found in the unit group. Finally, specify whether you wish to power up, power down, or cycle the power of the selected target devices.
- Export audit log to comma separated values (.csv) file - This command exports selected fields from the DSView system audit log to a .csv file. The exported audit log may be stored on a local or network drive. The audit log is named auditlog.csv by default, but you may also specify to append the date and time to the end of the audit log. The output .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.
- Upgrade firmware of selected appliances of the same type - This command upgrades the firmware of selected DSR switches and CPS appliances. First, select the unit groups containing the DSR switches and CPS appliances. Next, select the type of DSR switch or CPS appliance (CPS1610, DSR1021 and so on), followed by the particular DSR switches or CPS appliances. Next, select the firmware files to upgrade the selected DSR switch or CPS appliance. To upgrade other types of DSR switches or CPS appliances, you must create additional tasks.
- Validate external authentication server user accounts - This command may be used to ensure that LDAP and Active Directory external authentication services contain accounts for DSView users. Any DSView user accounts not found on the external authentication server will be flagged as suspicious (a question mark icon will appear to the left of the DSView user's name). Suspicious accounts are indicated in audit log files.

Specifying when to run tasks

After you have chosen to create a particular kind of task and clicked *Next* in the Select Task to Add window of the Add Task Wizard, the Select When to Run Task window will appear.

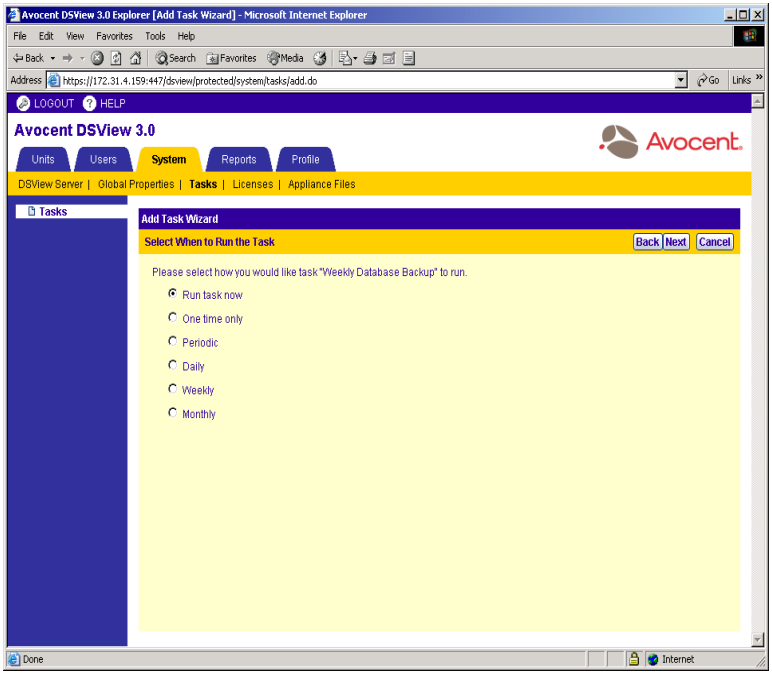


Figure 9.18: Add Task Wizard - Select When to Run Task Window

Use the Select When to Run Task window to choose when and how often you wish to run the task. Clicking *Next* will allow you to specify parameters for run the task if you choose any option other than Run task now.

You may choose to run tasks at the following times:

- Run task now - Choosing this option will run the task immediately after you click *Finish* when adding the task in the Add Task Wizard. The Status column will contain Running and the running icon will appear to the left of the task name.
- One time only - Choosing this option will run the task once at a specific time on a specific date.
- Periodic - Choosing this option will run the task a certain number of times per hour or day, beginning at a specific time on a specific date.
- Daily - Choosing this option will run the task once a day, once each weekday or regularly each certain number of days (every 2 days, every 3 days and so on), beginning at a specific time on a specific date.

- Weekly - Choosing this option will run the task once each week or regularly each certain number of weeks (every 2 weeks, every 3 weeks and so on), beginning at a specific time on a specific date. You may also specify which days you wish for the task to run.
- Monthly - Choosing this option will run the task once each month or regularly each certain number of months (every 2 months, every 3 months and so on) beginning at a specific time on a specific date. You may also which months you wish for the task to run.

Once a task has been created, you may change when and how often it will run using the Task Scheduler window. To display the Task Scheduler window, click on the task name and then click the *Schedule* link in the side navigation bar. See *Modifying tasks* on page 394 for more information.

To run a task periodically:

1. From the Select When to Run the Task window, click *Periodic*. Click *Next*.
2. The Specify Periodic Schedule window will appear.

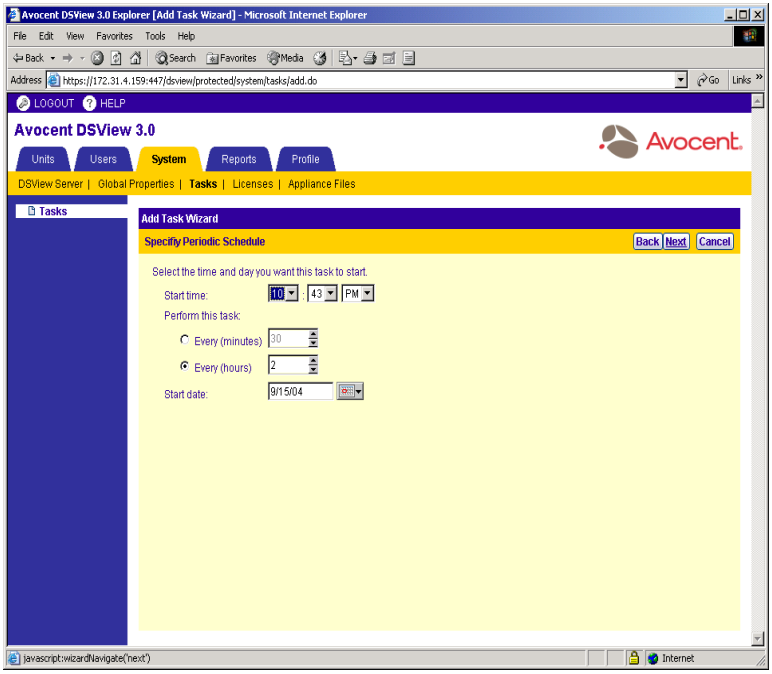

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Specify Periodic Schedule
Back Next Cancel
Select the time and day you want this task to start.
Start time: 10 : 43 PM
Perform this task:
Every (minutes) 30
Every (hours) 2
Start date: 9/15/04
javascript:wizardNavigate('next')
Internet

Figure 9.19: Add Task Wizard - Specify Periodic Schedule Window

a. Select the hour, minute and half of day from the drop-down menus to select the time to begin running the task.

b. Click *Every (minutes)* and select a number of minutes from the drop-down menu.

-or-

Click *Every (hours)* and select a number of hours from the drop-down menu.

c. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:

- Click on the year and select a year from the drop-down menu that will appear.
- Click on the month name and select a month from the drop-down menu that will appear.

  -or-

  Use the arrows at the top of the calendar to move forward and backward by month.
- Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task daily:

1. From the Select When to Run the Task window, click *Daily*.

   Click *Next*.
2. The Specify Daily Schedule window will appear.

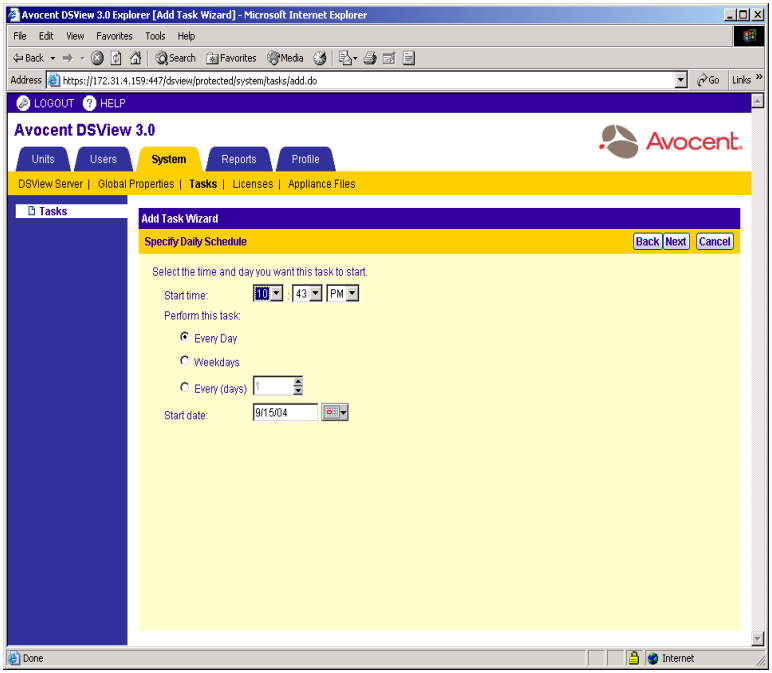


Figure 9.20: Add Task Wizard - Specify Daily Schedule Window

a. Select the hour, minute and half of day from the drop-down menus to select the time to begin running the task.

b. Click *Every Day* to run the task each day of the week (Sunday-Saturday).

   -or-

   Click *Weekdays* to run the task once each weekday (Monday-Friday).

   -or-

   Click *Every (days)* and select the number of consecutive days (1-365) from the drop-down menu.

c. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:

- Click on the year and select a year from the drop-down menu that will appear.
- Click on the month name and select a month from the drop-down menu that will appear.

  -or-

  Use the arrows at the top of the calendar to move forward and backward by month.
- Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task weekly:

1. From the Select When to Run the Task window, click *Weekly.*

   Click *Next*.
2. The Specify Weekly Schedule window will appear.

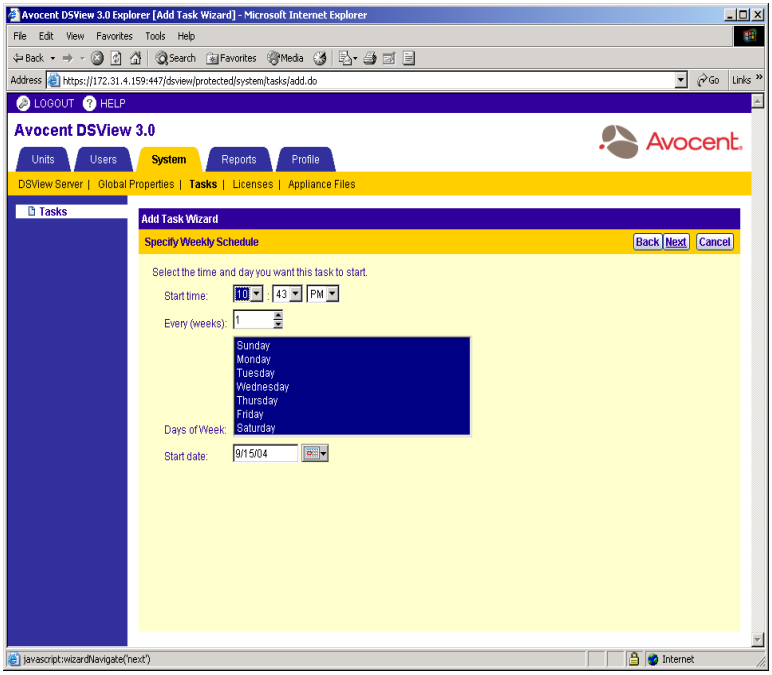


Figure 9.21: Add Task Wizard - Specify Weekly Schedule Window

a. Select the hour, minute and half of day from the drop-down menus to select the time to begin running the task.

b. Click *Every (weeks)* and select the number of consecutive weeks (1-52) from the drop-down menu.

c. Select the day of week to run the task from the list box. Multiple days may be selected by pressing **Ctrl** while clicking on the days.

d. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:

- Click on the year and select a year from the drop-down menu that will appear.
- Click on the month name and select a month from the drop-down menu that will appear.

  -or-

  Use the arrows at the top of the calendar to move forward and backward by month.
- Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

To run a task monthly:

1. From the Select When to Run the Task window, click *Monthly*.
   Click *Next*.
2. The Specify Monthly Schedule window will appear.

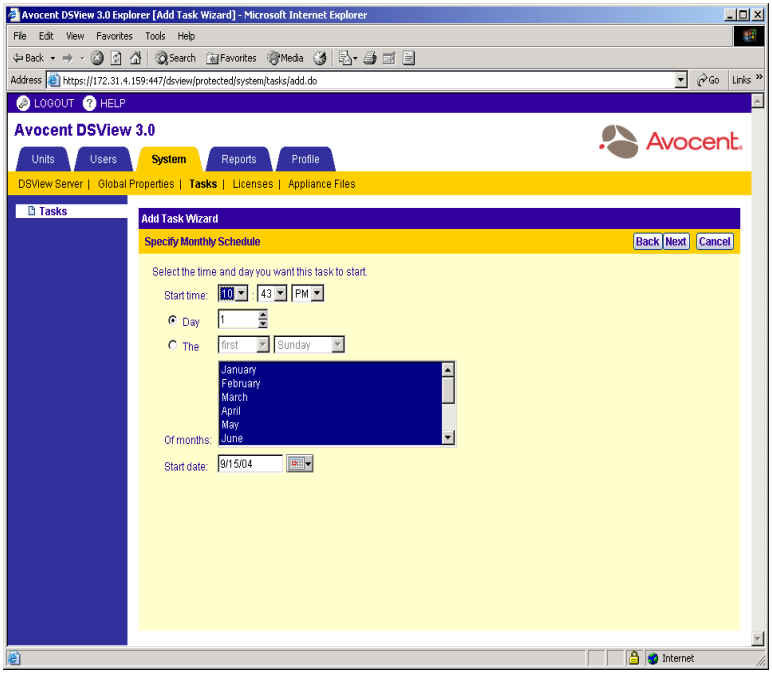


Figure 9.22: Add Task Wizard - Specify Monthly Schedule Window

a. Select the hour, minute and half of day from the drop-down menus to select the time to begin running the task.

b. Click *Day* and select the day of the month to run the task using the drop-down menu.

   -or-

   Click *The* and select a week and a day of the week to run the task using the drop-down menus. For example, if you wish to run the task each second Tuesday of the month, select *second* from the first drop-down menu and *Tuesday* from the second drop-down menu.

c. Select the month to run the task from the list box. Multiple months may be selected by pressing **Ctrl** while clicking on the days.

d. Click on the calendar button or the field to the left of the calendar button and select a date to begin running the task. To use the calendar:
   - Click on the year and select a year from the drop-down menu that will appear.
   - Click on the month name and select a month from the drop-down menu that will appear.
   - -or-
   - Use the arrows at the top of the calendar to move forward and backward by month.
   - Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.

Adding tasks using the Add Task Wizard

NOTE: Tasks may only be added by DSView Administrators.

To add the Backup DSView database and system files task:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Backup DSView database and system files* from the drop-down menu.
   b. Type a 1-64 character name for the task.
   c. Click *Next*.
3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Specify DSView System Backup Properties dialog box will appear.

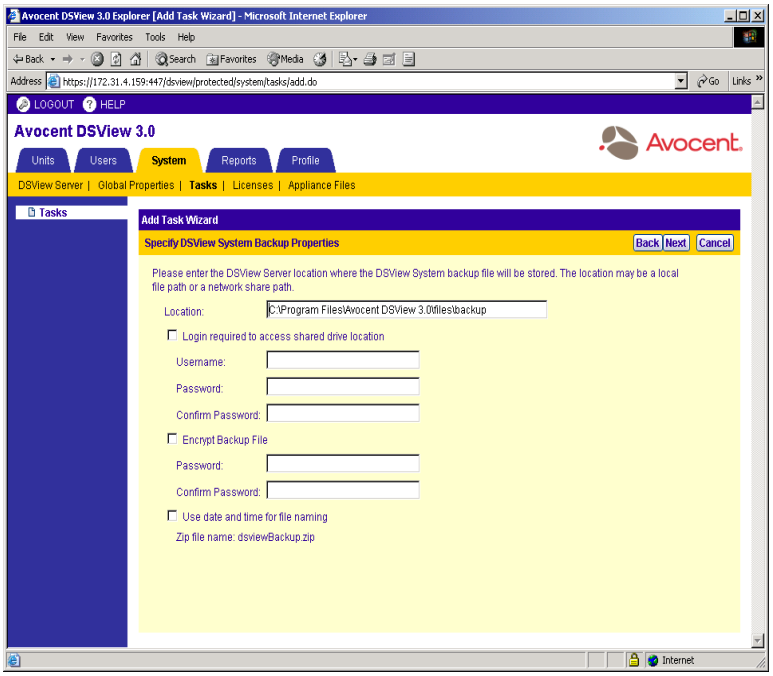

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Specify DSView System Backup Properties
Back Next Cancel
Please enter the DSView Server location where the DSView System backup file will be stored. The location may be a local file path or a network share path.
Location:
C:\Program Files\Avocent DSView 3.0\files\backup
Login required to access shared drive location
Username:
Password:
Confirm Password:
Encrypt Backup File
Password:
Confirm Password:
Use date and time for file naming
Zip file name: dsviewBackup.zip
Internet

Figure 9.23: Add Task Wizard - Specify DSView System Backup Properties Window

a. Type the directory in which to create the system backup, which may be a local drive on the DSView Server or at a network location specified by a UNC path.

NOTE: The directory name must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

b. Click *Login required to access shared drive location* if the location specified is a network path that requires a log in. Then, type the username and password and confirm the password of a user account that has read/write access to the network share location.

NOTE: The Location field cannot be set to a mapped network drive. It must be set to either a physical local drive or a shared network location specified as a UNC path.

c. Click *Encrypt Backup File* to encrypt the created system backup file and type a password used to lock and unlock the encrypted file.

d. Click *Use date and time for file naming* to append the date and time (in military time) to the end of the system backup file name. For example, if you are creating the backup file on October 1, 2004 at 10:04 pm, the file created will be named dsviewBackup1001042204.zip.

NOTE: If a system backup file already exists in the specified directory and this option is not used, the existing backup file will be overwritten when the new backup file is created.

5. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To configure SNMP trap settings on an appliance:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Configure SNMP trap settings on appliance* from the drop-down menu.
   b. Type a 1-64 character name for the task.
   c. Click *Next*.
3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Select Unit Group window will appear.

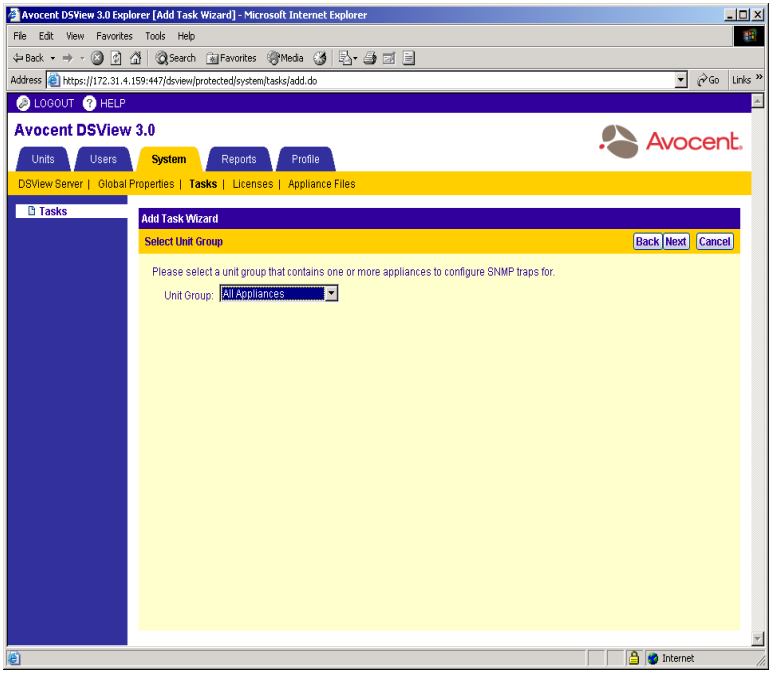

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Unit Group
Back Next Cancel
Please select a unit group that contains one or more appliances to configure SNMP traps for.
Unit Group: All Appliances
Internet

Figure 9.24: Add Task Wizard - Select Unit Group Window

   a. Select All Appliances.

   -or-

Select a unit group.

b. Click *Next*.

5. The Select Appliance Type window will appear.

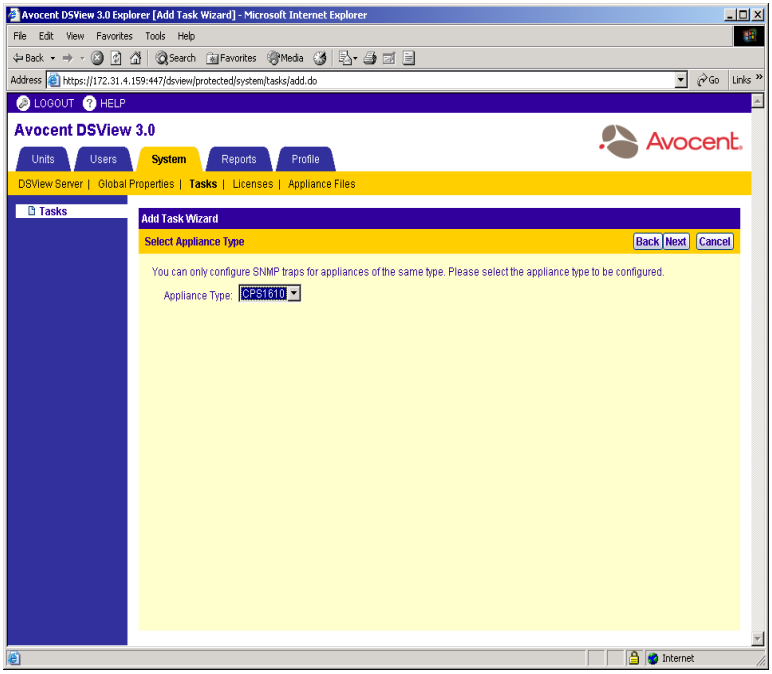

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Appliance Type
Back Next Cancel
You can only configure SNMP traps for appliances of the same type. Please select the appliance type to be configured.
Appliance Type: CPS1610
Internet

Figure 9.25: Add Task Wizard - Select Appliance Type Window

a. Select the type of DSR switch or CPS appliance for which to configure SNMP traps.

b. Click *Next*.

6. The Select Appliances window will appear. The Available Appliances list will contain all DSR switches or CPS appliances available from the unit group specified or all DSR switches or CPS appliances, depending on the selections made in step 4.

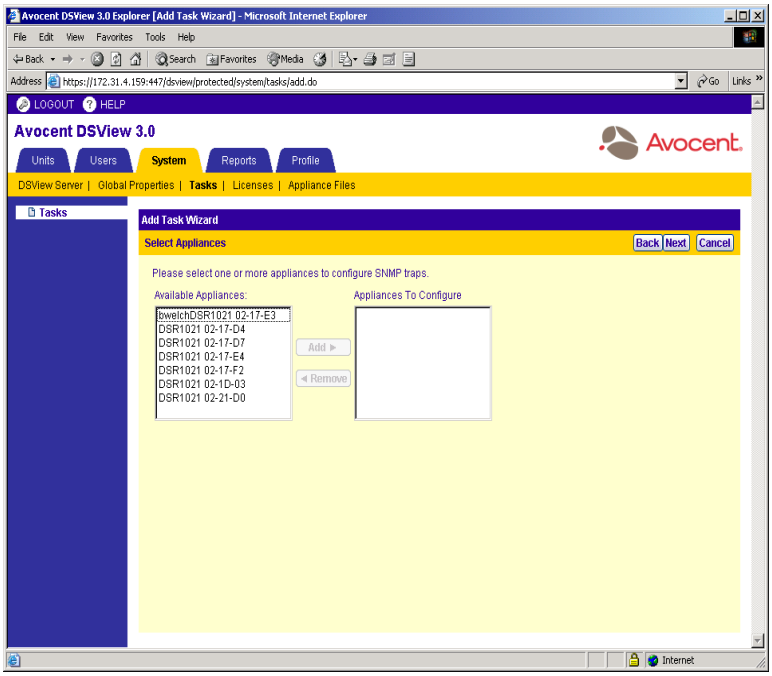


Figure 9.26: Add Task Wizard - Select Appliances Window

a. Select the specific DSR switches or CPS appliances for which to configure SNMP traps:

- Select the DSR switch or CPS appliance you wish to add from the Available Appliances list. Multiple DSR switches or CPS appliances may be selected by pressing **Ctrl** or **Shift** while clicking on the DSR switch or CPS appliance names.
- Click *Add*. The unit(s) will be moved to the Appliances to Configure list.

b. Click *Next*.

7. The Configure SNMP Traps window will appear.

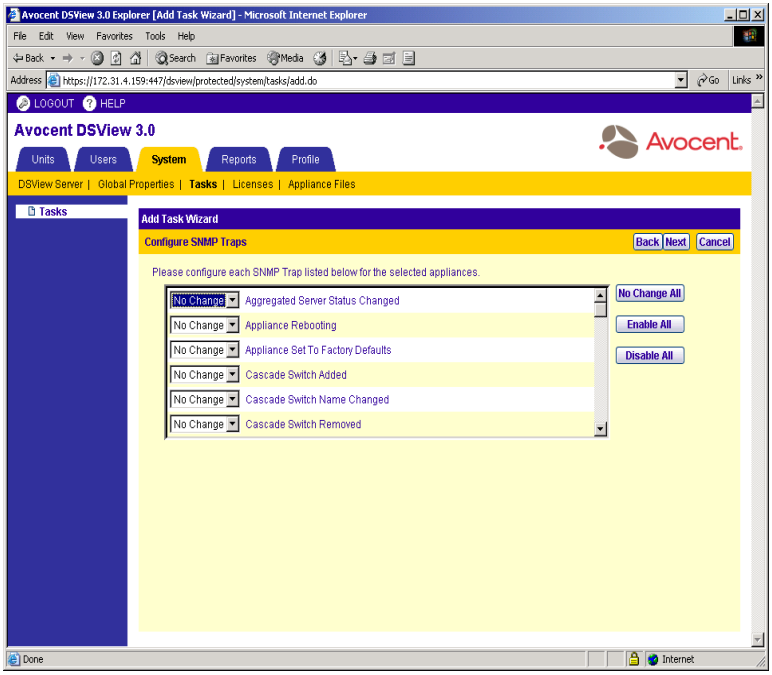

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Configure SNMP Traps
Back Next Cancel
Please configure each SNMP Trap listed below for the selected appliances.
No Change Aggregated Server Status Changed
No Change Appliance Rebooting
No Change Appliance Set To Factory Defaults
No Change Cascade Switch Added
No Change Cascade Switch Name Changed
No Change Cascade Switch Removed
No Change All
Enable All
Disable All
Done
Internet

Figure 9.27: Add Task Wizard - Configure SNMP Traps Window

a. Modify the state of each SNMP trap by selecting on of the following from the trap's drop-down menu:

- Select *No Change* if you wish to leave the trap on/off state to the state already configured in the DSR switch or CPS appliance.
- Select *Enable* to turn the trap on.
- Select *Disable* to turn the trap off.

-or-

Click one of the following buttons:

- Click *No Change All* to use the on/off states already configured in the DSR switch or CPS appliance for all traps.
- Click *Enable All* to turn all traps on.
- Click *Disable All* to turn all traps off.

b. Click *Next*.

8. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To perform target device power control operations:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Control power of target devices* from the drop-down menu.
   b. Type a 1-64 character name for the task.
   c. Click *Next*.
3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Select Unit Group window will appear.

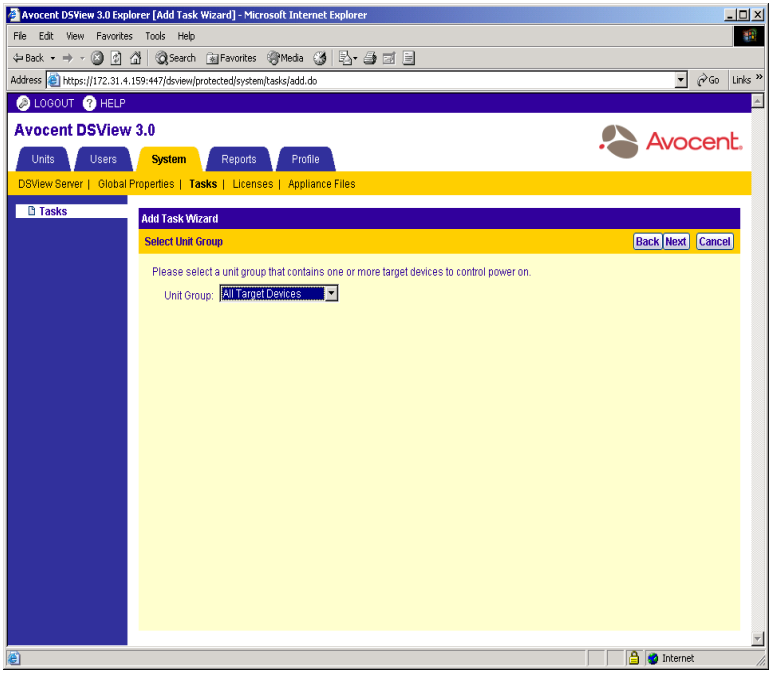

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Unit Group
Back Next Cancel
Please select a unit group that contains one or more target devices to control power on.
Unit Group: All Target Devices
Internet

Figure 9.28: Add Task Wizard - Select Unit Group Window

   a. Select *All Target Devices* from the drop-down menu to configure the power control settings on all target devices.

   -or-

Select a particular unit group to configure from the drop-down menu. See *Managing Units using Unit Groups* on page 313 for information on creating unit groups.

b. Click *Next*.

5. The Select Target Devices window will appear. The Available Target Devices list will contain all target devices available in the unit group specified in the previous step.

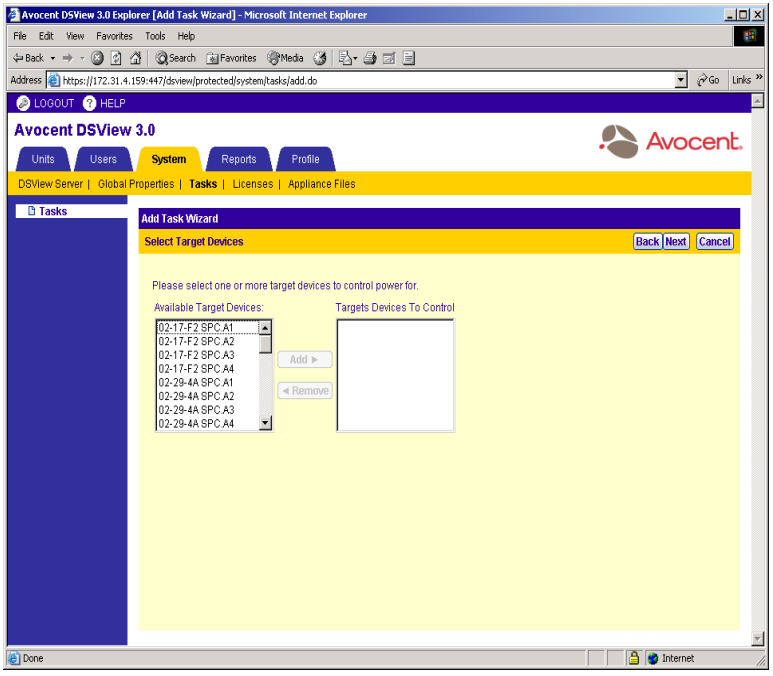


Figure 9.29: Add Task Wizard - Select Target Devices Window

a. Select the specific target devices for which to configure power settings:

- Select the target device you wish to add from the Available Target Devices list. Multiple target devices may be selected by pressing **Ctrl** or **Shift** while clicking on the target device names.
- Click *Add*. The target device(s) will be moved to the Target Devices to Control list.

b. Click *Next*.

6. The Select Power Control Function window will appear.

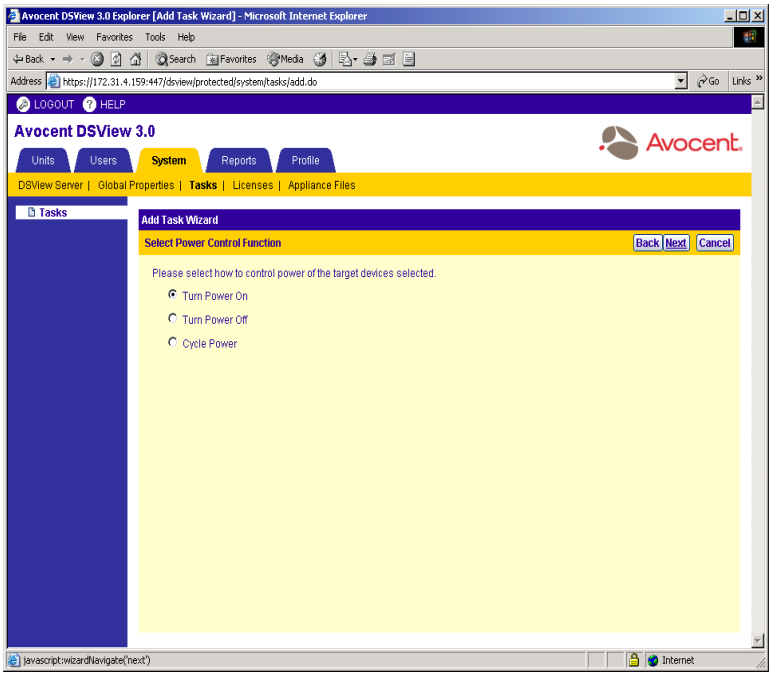

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Power Control Function
Back Next Cancel
Please select how to control power of the target devices selected.
Turn Power On
Turn Power Off
Cycle Power
javascript:wizardNavigate('next')
Internet

Figure 9.30: Add Task Wizard - Select Power Control Function Window

a. Specify the power control function you wish to perform on the target devices:

- Select *Turn Power On* to power up the specified target devices.
- Select *Turn Power Off* to power down the specified target devices.
- Select *Cycle Power* to power down and then power up the specified target devices.

b. Click *Next*.

7. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To export an auditlog .csv file:

NOTE: You may also save an audit log using the Export Audit Log tool. See *Using the Audit Log Tool* on page 421 for more information.

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Export audit log to a comma separated values (.CSV) file* from the drop-down menu.
   b. Type a 1-64 character name for the task.

c. Click *Next*.

3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Specify Export Audit Log Properties window will appear.

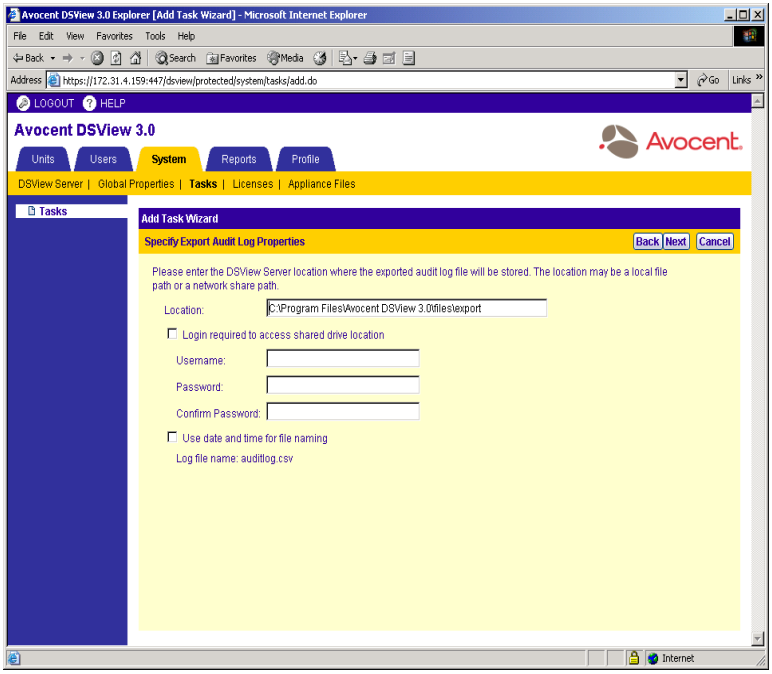

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Specify Export Audit Log Properties
Back Next Cancel
Please enter the DSView Server location where the exported audit log file will be stored. The location may be a local file path or a network share path.
Location:
C:\Program Files\Avocent DSView 3.0\files\export
Login required to access shared drive location
Username:
Password:
Confirm Password:
Use date and time for file naming
Log file name: auditlog.csv
Internet

Figure 9.31: Add Task Wizard - Specify Export Audit Log Properties Window

   a. Type the directory in which to create the audit log, which may be a local drive on the DSView Server or at a location specified by a UNC path.

NOTE: The directory name must be entered in case-sensitive text if your operating system supports case-sensitive filenames.

   b. Click *Login required to access shared drive location* if the location specified is a network drive that requires a log in. Then, type the username and password and confirm the password of a user account that has read/write access to the network share location.

NOTE: The Location field cannot be set to a mapped network drive. It must be set to either a physical local drive or a shared network location specified as a UNC path.

c. Click *Use date and time for file naming* to append the date and time (in military time) to the end of the audit log file. For example, if you are creating the audit log file on October 1, 2004 at 10:04 pm, the file created will be named auditlog1001042204.csv.

NOTE: If an audit log exists in the specified directory and you do not use this option, it will be overwritten when the new audit log is created.

d. Click *Next*.

5. The Select Audit Log Columns to Export window will appear.

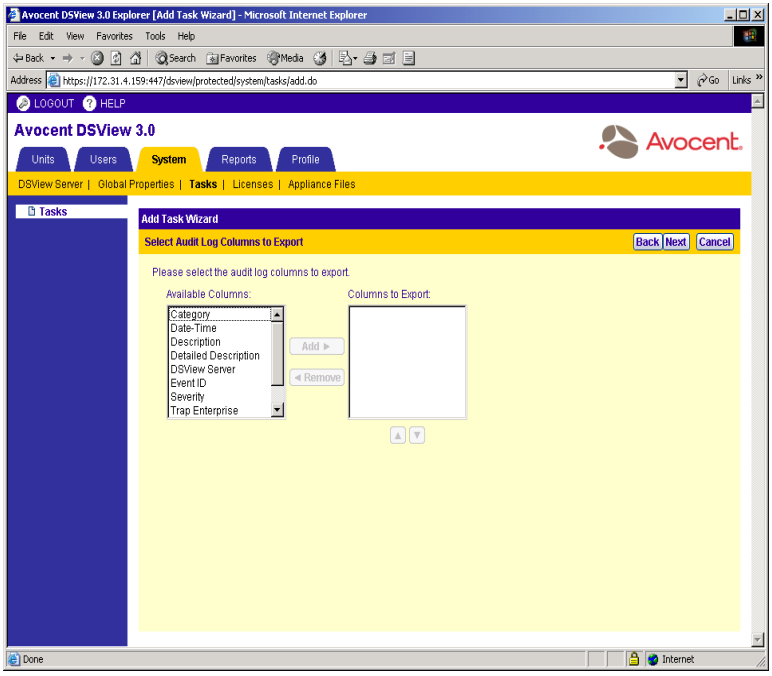


Figure 9.32: Add Tasks Window - Select Audit Log Columns to Export Window

a. Add or remove the columns of information that you wish to export. See *Customizing the Audit Log window* on page 402 for more information on the types of information that may be exported.

To add a column of information:

- Select the column you wish to export from the Available Columns list. Multiple columns may be selected by pressing **Ctrl** or **Shift** while clicking on the column names.
- Click *Add*. The column(s) will be moved to the Columns to Export list.

To remove a column of information:

- Select the column you wish to remove from the Columns to Export list. Multiple columns may be selected by pressing **Ctrl** or **Shift** while clicking on the column names.
- Click *Remove*. The column(s) will be moved to the Available Columns list.

b. To change the order in which exported columns are listed in the output .csv file, select the columns in the Columns to Export list and use the up and down arrows to move the selected columns up or down in the listing. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.

c. Click *Next*.

6. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To update the firmware of specific appliances of a specific type to DSView software compatibility:

NOTE: Firmware must be available before using this command. See *Firmware Management* on page 395 for more information.

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Update firmware of selected appliances of the same type* from the drop-down menu.
   b. Type a 1-64 character name for the task.
   c. Click *Next*.
3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Select Unit Group window will appear.

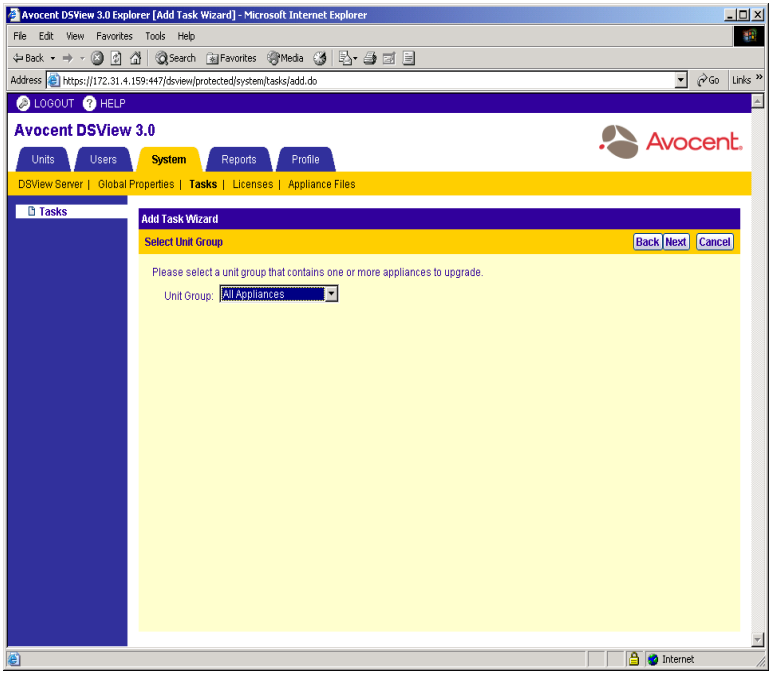

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Unit Group
Back Next Cancel
Please select a unit group that contains one or more appliances to upgrade.
Unit Group: All Appliances
Internet

Figure 9.33: Add Task Wizard - Select Unit Group Window

a. Select *All Appliances* from the drop-down menu to upgrade all units.

   -or-

   Select a particular unit group to upgrade from the drop-down menu. See *Managing Units using Unit Groups* on page 313 for information on creating unit groups.

b. Click *Next*.

5. The Select Appliance Type window will appear.

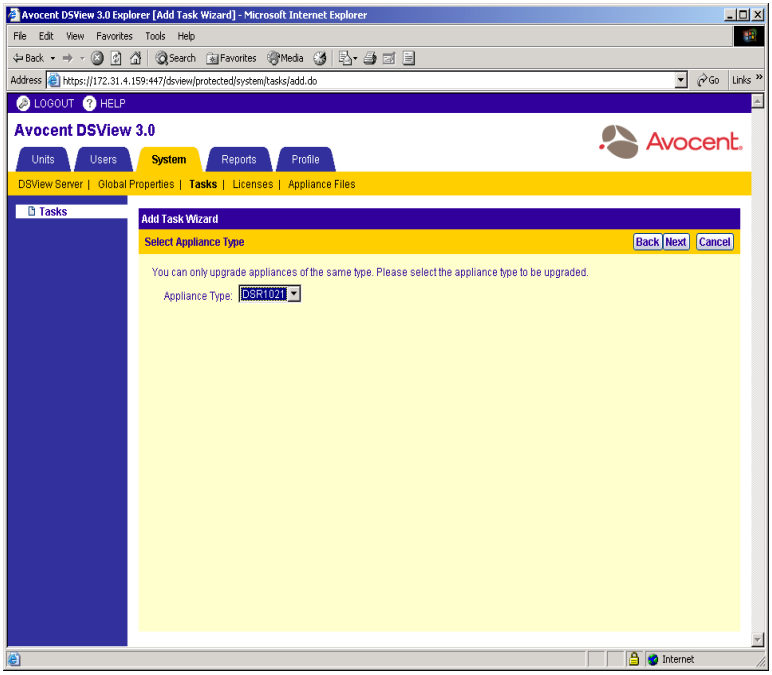

Avocent DSView 3.0 Explorer [Add Task Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/system/tasks/add.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent.
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Tasks
Add Task Wizard
Select Appliance Type
Back Next Cancel
You can only upgrade appliances of the same type. Please select the appliance type to be upgraded.
Appliance Type: DSR1021
Internet

Figure 9.34: Add Task Wizard - Select Appliance Type Window

a. Select the type of DSR switch or CPS appliance that you wish to upgrade.

b. Click *Next*.

6. The Select Appliances list will contain all DSR switches and CPS appliances available in the unit group specified in the previous step.

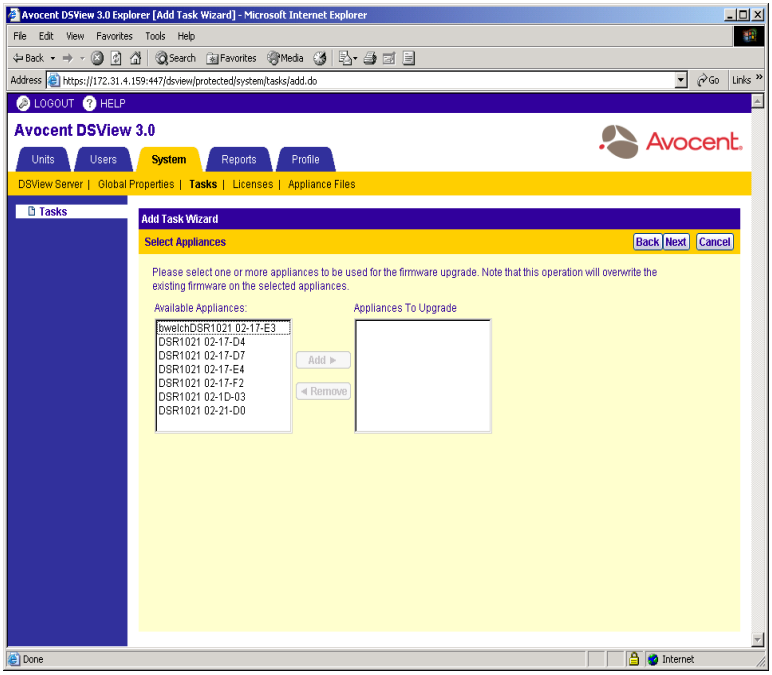


Figure 9.35: Add Task Wizard - Select Appliances Window

a. Select the specific DSR switches or CPS appliances that you wish to upgrade:

- Select the DSR switch or CPS appliance you wish to add from the Available Appliances list. Multiple DSR switches or CPS appliances may be selected by pressing **Ctrl** or **Shift** while clicking on the DSR switch or CPS appliance names.
- Click *Add*. The unit(s) will be moved to the Appliances to Configure list.

b. Click *Next*.

7. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

To validate DSView user accounts on an external authentication server:

1. From the Tasks window, click *Add*. The Welcome page of the Add Task Wizard will appear. Click *Next*.
2. The Select Task to Add window will appear.
   a. Select *Validate external authentication server user accounts* from the drop-down menu.
   b. Type a 1-64 character name for the task.
   c. Click *Next*.

3. The Select When to Run the Task window will appear.
   a. Select a time to run the task. See *Specifying when to run tasks* on page 371 for information on specifying when and how often to run a task.
   b. Click *Next*.
4. The Completed Successful window will appear. Click *Finish*. The Tasks window will appear including the new task.

Running tasks manually

Although tasks are scheduled to run at particular times using the Add Task Wizard, you may run an existing task at any time you wish.

To manually run tasks:

1. From the Tasks window, click the checkbox to the left of the task(s) you wish to run.

   -or-

   Click the checkbox to the left of Name column at the top of the list to select all tasks listed in the window.

NOTE: Remote tasks, which are scheduled on another DSView Sever, may not be run from the DSView Server to which you are logged in. To run a remote task, you must log in to the DSView Server on which the task was created.

2. Click *Run Now*. The icon to the left of the task name will change to the running icon and the status of the task will change to Running.

Deleting tasks

To delete a task:

1. From the Tasks window, click the checkbox to the left of the task(s) you wish to delete.

   -or-

   Click the checkbox to the left of Name column at the top of the list to select all tasks listed in the window for deletion.

NOTE: Remote tasks, which are scheduled on another DSView Sever, may not be deleted from the DSView Server to which you are logged in. To delete a remote task, you must log in to the DSView Server on which the task was created.

2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the task(s)

   -or-

   Click *Cancel* to cancel the action.

Modifying tasks

NOTE: Remote tasks, which are scheduled on another DSView Sever, may not be modified from the DSView Server to which you are logged in. To modify a remote task, you must log in to the DSView Server on which the task was created.

You may modify the following for existing tasks:

- Schedule - When and how often to run the task and frequency that the task is scheduled to run.
- Properties - The task-specific information required to run the task. All properties available for editing will appear in a single window.

NOTE: The Validate external authentication server user accounts task does not contain properties.

To modify a task schedule:

1. From the Tasks window, click the name of the task you wish to modify. The side navigation bar will include the name of the task that you are modifying.
2. From the side navigation bar, click *Schedule*. The Task Schedule window will appear.

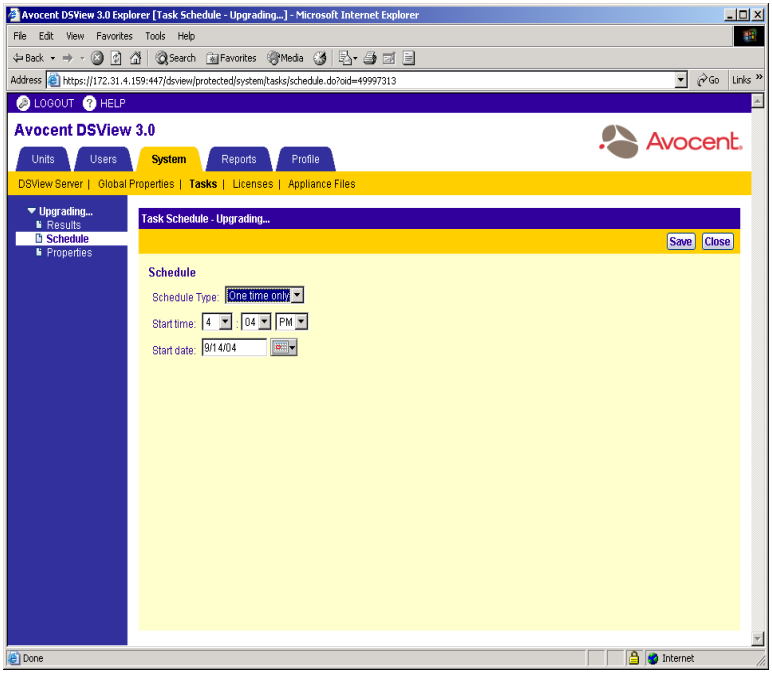


Figure 9.36: Task Schedule Window

a. Select the type of task you wish to schedule and complete the information. See *Specifying when to run tasks* on page 371 for information on scheduling each type of task.

To modify the properties of a task:

1. From the Tasks window, click the name of the task you wish to modify. The side navigation bar will include the name of the task that you are modifying.
2. From the side navigation bar, click *Properties*. A Task Properties window will appear.
3. Modify the properties of the task. See the operating sequence for the task type in *Adding tasks using the Add Task Wizard* on page 378 for information on modifying the task.

Firmware Management

The FLASH firmwares for DSR switches and CPS appliances may be added, viewed and deleted using the Appliance Firmware Files window. Once a FLASH firmware file(s) has been added, you may use the file(s) to upgrade the DSR switch or CPS appliance.

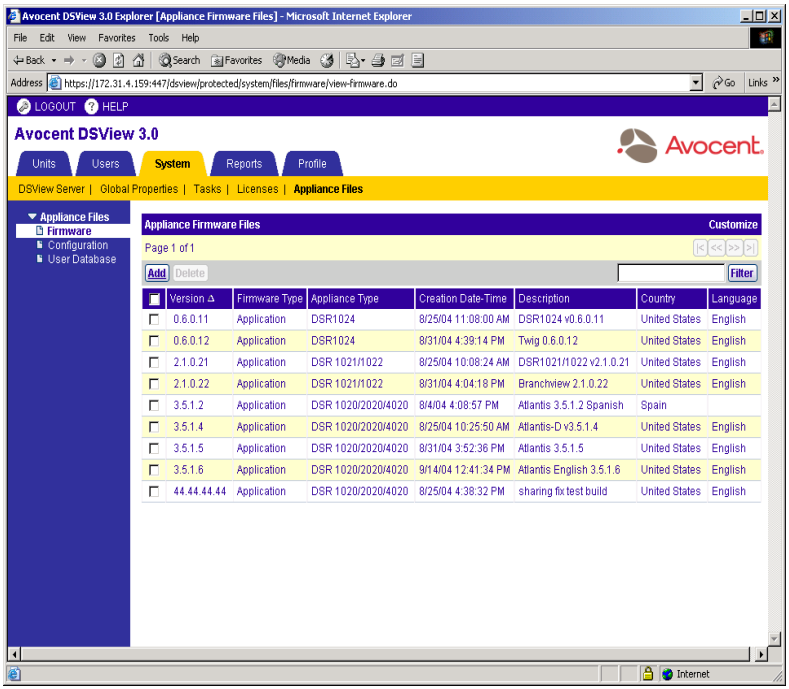

Avocent DSView 3.0 Explorer [Appliance Firmware Files] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/files/firmware/view-firmware.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Appliance Files
Firmware
Configuration
User Database
Appliance Firmware Files
Customize
Page 1 of 1
Add Delete
Filter
Version Firmware Type Appliance Type Creation Date-Time Description Country Language
0.6.0.11 Application DSR1024 8/25/04 11:08:00 AM DSR1024 v0.6.0.11 United States English
0.6.0.12 Application DSR1024 8/31/04 4:39:14 PM Twig 0.6.0.12 United States English
2.1.0.21 Application DSR 1021/1022 8/25/04 10:08:24 AM DSR1021/1022 v2.1.0.21 United States English
2.1.0.22 Application DSR 1021/1022 8/31/04 4:04:18 PM Branchview 2.1.0.22 United States English
3.5.1.2 Application DSR 1020/2020/4020 8/4/04 4:08:57 PM Atlantis 3.5.1.2 Spanish Spain
3.5.1.4 Application DSR 1020/2020/4020 8/25/04 10:25:50 AM Atlantis-D v3.5.1.4 United States English
3.5.1.5 Application DSR 1020/2020/4020 8/31/04 3:52:36 PM Atlantis 3.5.1.5 United States English
3.5.1.6 Application DSR 1020/2020/4020 9/14/04 12:41:34 PM Atlantis English 3.5.1.6 United States English
44.44.44.44 Application DSR 1020/2020/4020 8/25/04 4:38:32 PM sharing fix test build United States English
Internet

Figure 9.37: Appliance Firmware Files Window

To display the Appliance Firmware Files Window:

1. From the DSView 3.0 Explorer, click the *System* tab.
2. From the top navigation bar, click *Appliance Files*. *Appliance Files - Firmware* is automatically selected in the side navigation bar and the Appliance Firmware Files window will appear.

Customizing the Appliance Firmware Files window

By default, the following field displays in the Appliance Firmware Files window:

- Version - Displays the version of the firmware.
- Firmware Type - Displays the type of firmware (Boot or Application).
- Appliance Type - Displays the family of DSR switch or CPS appliance the firmware supports.
- Creation Date-Time - Displays the time the firmware was created.
- Description - Displays the description provided when the firmware was added to the DSView system.

The following fields may be displayed in the Appliance Firmware Files window by clicking the *Customize* link:

- Language - Displays the language of the firmware.
- Country - Displays the country of the firmware.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

Adding firmware

To add a firmware file:

1. From the Appliance Firmware Files window, click *Add*. The Welcome page of the Add Firmware File Wizard window will appear.

   Click *Next*.
2. The Select Firmware File to Import window will appear.

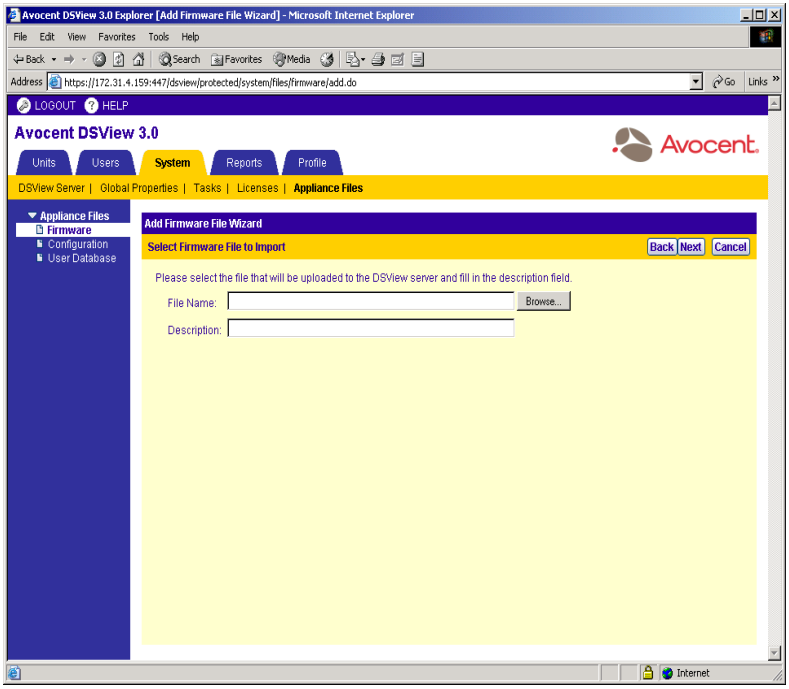

Avocent DSView 3.0 Explorer [Add Firmware File Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/system/files/firmware/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
DSView Server | Global Properties | Tasks | Licenses | Appliance Files
Appliance Files
Firmware
Configuration
User Database
Add Firmware File Wizard
Select Firmware File to Import
Back Next Cancel
Please select the file that will be uploaded to the DSView server and fill in the description field.
File Name:
Browse...
Description:
Internet

Figure 9.38: Add Firmware File Wizard- Select Firmware File to Import Window

3. Enter the directory and filename of the firmware file you want to add to the DSView software appliance files repository. Alternately, you may browse for the file by clicking the *Browse* button.
4. Type a description of the firmware file in the Description field.
5. Click *Next*. The firmware is added and the Completed Successful window appears.
6. Click *Finish*. The Appliance Firmware Files window will appear including the added firmware file.

NOTE: Once the file is uploaded, it is no longer needed on the DSView Client from which it was uploaded.

Displaying or modifying firmware information

You may display information about firmware available for upgrading DSR switches and CPS appliances. The information will appear in the Appliance Firmware File Properties window and includes the following:

- The firmware version
- The type of appliance to which the firmware may be installed
- The creation date of the firmware

- The country and language of the firmware

You may modify the description of the firmware file.

The information in the Firmware File Properties window facilitates system troubleshooting and support. For optimum performance, keep your firmware current.

To display firmware information:

1. From the Appliance Firmware Files window, click on the version of a firmware file. The Firmware File Properties window will appear.

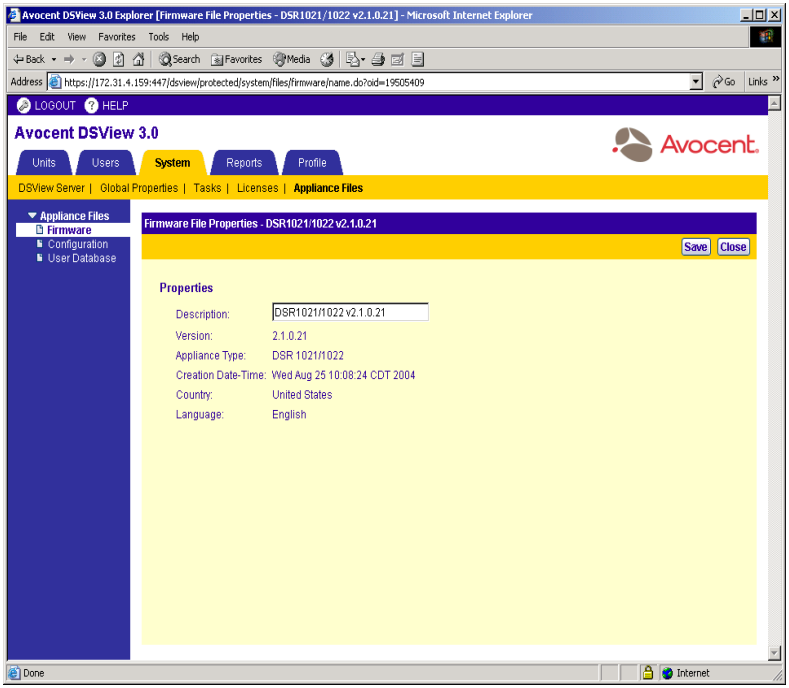


Figure 9.39: Firmware File Properties Window

2. If you wish, you may change the description of the firmware file in the Description field.
3. Click *Save*.
4. Click *Close*. The Appliance Firmware - All window will appear and contain the firmware information if you saved the changes.

Deleting firmware

FLASH Firmware may be deleted from the DSView software file repository.

To delete firmware:

1. From the Appliance Firmware Files window, select the checkbox(es) of any firmware you wish to delete.
2. Click the *Delete* button. A confirmation dialog box will appear.
3. Click *Yes* to delete the firmware files.

   -or-

   Click *No* to cancel the action.

CHAPTER 10

Working with Audit Logs

About Audit Logs

Whenever an event occurs in the DSView system, the event is saved in the audit log. Examples of events that may be logged include changes in the state of a managed appliance (DSR switch, CPS serial over IP network appliance, EVR1500 environmental monitor or generic appliance), an unsuccessful log in to the DSView software, the completion of run tasks and log outs.

The types of audit log entries are predefined in the DSView software. See *DSView software events* on page 404 for a complete description of audit log events.

To view audit log entries, click *Reports* in the tab bar. *Audit Log* is automatically selected in the top navigation, *Audit Log Views - All* is automatically selected in the side navigation bar and the Audit Log-All window will appear. The Audit Log - All window contains a listing of all audit log events that have occurred on the DSView system.

Audit log data may be exported from the DSView software into a comma separated value (.csv) file. The .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

DSView users may specify how long audit information is retained in the DSView software database by using the Audit Log Retention Time window.

NOTE: Audit log information is stored in the DSView software database and is replicated. Increasing the audit log retention time may impact the performance of your DSView system. It is recommended that old audit log entries be archived to .csv files by scheduling tasks. See *Managing Tasks* on page 368 for more information.

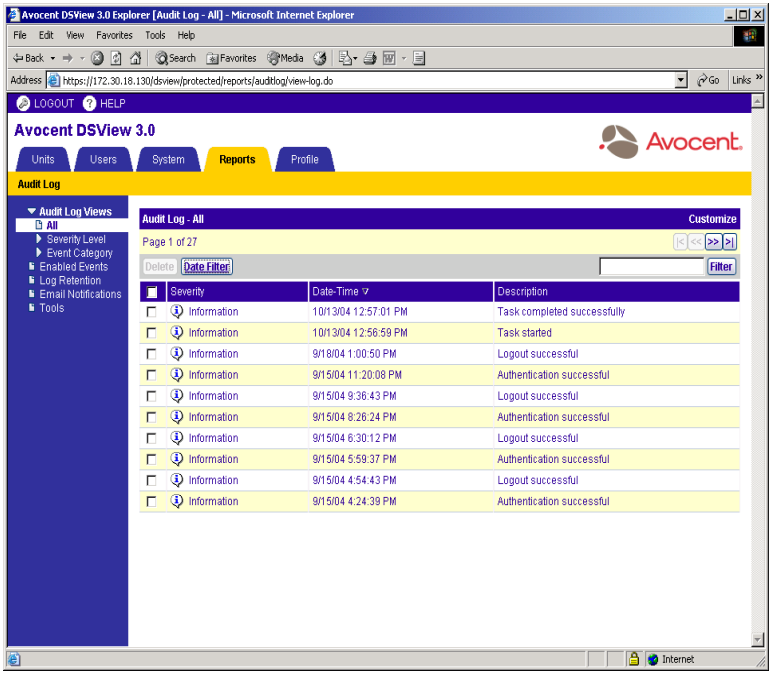


Figure 10.1: Audit Log - All Window

Clicking on the following links beneath Audit Log Views in the side navigation bar will expand the link and display additional sub links:

- Severity Level - Displays links that may be clicked to view audit log entries of a particular severity level (Monitor, Information, OK, Non-Critical, Critical or Non-Recoverable).
- Event Category - Displays links that may be clicked to view audit log entries in a particular event category (System, Authentication, Users, Units, Tasks, Unit Status, Access Control or Sessions).

Clicking on a link beneath Severity Level or Event Category in the side navigation bar will display a window containing a listing of all audit log events in the DSView system that belonging to that particular type.

Additional commands are available in the side navigation bar to disable currently enabled events, specify how long the audit log should be retained, who should be notified by email when an audit log event occurs and to export the audit log to a .csv file.

Detailed information about an audit log event may be viewed by clicking on its name in the Severity column.

Customizing the Audit Log window

The following columns are always displayed in the Audit Log window:

- Severity - Displays information about an audit log entry. Clicking on an audit log entry in this column will display the Audit Log Event Information window, which contains detailed information about the entry. An icon will also appear to the left of the item name. Table 10.1 lists the icons that will appear for various severity levels:

Table 10.1: Audit Log Severity Icons

Icon	Description
	Monitor event
	Information event
	OK event
	Non-Critical event
	Critical and non-recoverable event

- Date/Time - Displays the date and time of an audit event in the Client computer's time zone.

By default, the following column displays in an Audit Log window and may be removed by clicking the *Customize* link:

Description - Displays a short description of an audit event. See *DSView software events* on page 404 for a list of events.

By default, the following columns do not display in the Audit Log window and may be added by clicking the *Customize* link:

- Category - Displays the category of an audit log entry. Available categories are Appliance and Target Device.

  Available categories include:

  - Appliance
  - System
  - Authentication
  - Users
  - Units
  - Tasks
  - Unit Status
  - Access Control
  - Sessions

- Detailed Description - Displays detailed information about an audit event. Detailed descriptions may including items such as the name of a target device, DSView Server, DSView user and so on. For example, an MIB-II interface link up trap would contain *Appliance change of state* in the Description column, while the Detailed Description column would contain *Generic link up interface 1*.
- DSView Server - Displays the name of the DSView Server where the event was logged.
- Event ID - Displays a unique identifier for an audit event. The Event ID column is useful for filtering and sorting displays based on a specific event type.
- Trap Enterprise - Displays the enterprise object identifier for a received SNMP trap. See *Modifying DSR switch or CPS appliance SNMP settings* on page 168 for more information.
- Unit - Displays the name of a managed appliance for an audit event.
- User - Displays the DSView user associated with an event. For example, this column shows the name of the DSView user who deleted a unit when a Unit Deleted event is detected.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

DSView software events

Table 10.2 through Table 10.10 list the events that may occur within a DSView system.

Table 10.2: DSView Software Appliance Events

Appliance Events			
Event ID	**Description**	**Event ID**	**Description**
1:0	An unrecognized event was received	1:11	Appliance upgrade result
1:1	Appliance cold start	1:12	Appliance authentication failure
1:2	Appliance warm start	1:13	Appliance diagnostic information
1:3	Appliance viewer session started	1:14	Appliance user logged in
1:4	Appliance viewer session stopped	1:15	Appliance user logged out
1.5	Appliance viewer session terminated	1:16	Appliance alert from attached server
1:6	Appliance component added	1:17	Appliance configuration changed
1:7	Appliance component removed	1:18	Appliance command issued
1:8	Appliance component restarted	1:19	Appliance incorrect state detected
1:9	Appliance change of state	1:20	Appliance threshold exceeded
1:10	Appliance upgrade started		

Table 10.3: DSView System Events

System Events			
Event ID	**Description**	**Event ID**	**Description**
2:1	DSView server <server name> started successfully	2:66	DSView server added
2:2	DSView server <server name> started with errors	2:80	Too many SNMP traps are being received
2:3	The <server name> service failed to start	2:81	Too many SNMP traps were received
2:4	DSView server <server name> stopped	2:96	Backup server <server name> successfully registered
2:16	Too many audit events are being received	2:97	Backup server <server name> registration failed
2:17	Too many audit events were received	2:98	DSView Server <server name> is now configured as a primary server
2:32	System disabled due to a license violation (duplicate key)	2:99	DSView Server <server name> failed to become a Primary Server
2:33	A license violation was detected (duplicate key)	2:100	Server <server name> failed to register with the new primary
2:34	A client license violation was detected (first warning)	2:112	Due to naming conflicts <device names> were renamed
2:35	A client license violation was detected (second warning)	2.115	A database snapshot of the hub was required
2:36	A client license violation was detected (third warning)	2:128	Database backup successful
2:37	A client license violation was detected (final)	2:129	Database backup failed, {0}
2:48	SSL server certificate updated	2:130	Database restore successful
2.64	DSView Server configuration was updated	2.131	Database restore failed
2.65	DSView server deleted		

Table 10.4: DSView Software Authentication Events

Authentication Events			
Event ID	**Description**	**Event ID**	**Description**
3:1	Authentication successful	3:6	An authentication server was added
3:2	Logout successful	3:7	An authentication server was modified
3:3	Authentication failure	3:8	An authentication server was deleted
3:4	External AuthServer authentication failed	3:16	An LDAP search returned a bad continuation reference
3:5	Server authentication failure		

Table 10.5: DSView Software User and User Group Events

User and User Group Events			
Event ID	**Description**	**Event ID**	**Description**
4:1	User account locked	4:5	User account deleted
4:2	User account unlocked	4:6	User group added
4:3	User account added	4:7	User group modified
4:4	User account modified	4:8	User group deleted

Table 10.6: DSView Software Unit Events

Unit Events			
Event ID	**Description**	**Event ID**	**Description**
5:1	Unit group added	5:16	Unit added
5:2	Unit group deleted	5:17	Unit modified
5:3	Unit group modified	5:18	Unit deleted
5:4	Site added	5:19	Unit custom fields modified
5:5	Site modified	5:20	Target devices merged
5:6	Site deleted	5:21	Appliance configuration file added
5:7	Location added	5:22	Appliance configuration file modified
5:8	Location modified	5:23	Appliance configuration file deleted
5:9	Location deleted	5:24	User database file added

Table 10.6: DSView Software Unit Events (Continued)

Unit Events			
Event ID	**Description**	**Event ID**	**Description**
5:10	Department added	5:25	User database file modified
5:11	Department modified	5:26	User database file deleted
5:12	Department deleted	5:28	Power on command issued
5:13	Firmware file added	5:29	Power off command issued
5:14	Firmware file Modified	5:30	Power cycle command issued for <device>
5:15	Firmware file deleted	5:31	Unit <unit name> rebooted

Table 10.7: DSView Software Task Events

Task Events			
Event ID	**Description**	**Event ID**	**Description**
6:1	Task started	6:6	Task added
6:2	Task completed successfully	6:7	Task modified
6:3	Task started manually	6:8	Task deleted
6:4	Scheduled task failed.	6:9	Task failed
6.5	Scheduled task failed		

Table 10.8: DSView Software Unit Status Events

Task Events			
Event ID	**Description**	**Event ID**	**Description**
7:1	Loss of communication (LCM)	7:2	Regained communication (RCM)

Table 10.9: DSView Software Access Control Events

Task Events			
Event ID	**Description**	**Event ID**	**Description**
8:1	Access rights modified		

Table 10.10: DSView Software Session Events

Session Events			
Event ID	**Description**	**Event ID**	**Description**
9:1	Session started	9:11	Global macro modified
9:2	Session stopped	9:12	Global macro deleted
9:3	Session terminated	9:20	Global macro group added
9:4	Session preempted	9:21	Global macro group modified
9:10	Global macro group added	9:22	Global macro group deleted

Viewing Audit Logs

To view a specific type of audit log entry:

From the side navigation bar under Audit Log Views, do one of the following:

- Click *All* to view a list of all available audit logs in the DSView software. The Audit Log - All window will appear.
- Click *Severity Level* to display a list of audit log entries that match a given severity level and then click on one of the following:
  - *Monitor* - Displays the Audit Log - Monitor Events window, which displays events that are periodic and expected.
  - *Information* - Displays the Audit Log - Information Events window, which displays events that are neither periodic nor problematic.
  - *OK* - Displays the Audit Log - OK Level Events window, which displays events that are in a normal or cleared state. This value typically appears at event start up or after leaving a previous event state.
  - *Non-Critical* - Displays the Audit Log - Non-Critical Events window, which displays abnormal events that require correcting at a later time.
  - *Critical* - Displays the Audit Log - Critical Events window, which displays abnormal events of a more serious nature that may require quicker action, such as the failure of a scheduled task or loss of communication.
  - *Non-Recoverable* - Displays the Audit Log - Non-Recoverable Events window, which displays severe abnormal events impacting your DSView software session and require immediate corrective action.

- Click *Event Category* to display a list of audit logs belonging to a specific category in the side navigation bar and then click on one of the following:
  - *Appliance* - Displays the Audit Log - Appliance Events window, which displays events related to managed appliances.
  - *System* - Displays the Audit Log - System Events window, which displays events related to the DSView software host server, global settings, licenses, tasks or firmware.
  - *Authentication* - Displays the Audit Log - Authentication Events window, which displays events related to DSView user login and authentication.
  - *Users* - Displays the Audit Log - User Events window, which displays events relating to DSView users.
  - *Units* - Displays the Audit Log - Unit Events window, which displays events related to units (managed appliances and target devices), unit groups, sites, departments or locations.
  - *Tasks* - Displays the Audit Log - Task Events window, which displays events related to the starting or stopping of an audit event.
  - *Unit Status* - Displays the Audit Log - Unit Status Events window, which displays events related to loss of or regaining of communication with a managed appliance.
  - *Access Control* - Displays the Audit Log - Access Control Events window, which displays events related to a DSView user's privileges for working with specific managed appliances.
  - Sessions - Displays the Audit Log - Session Events window, which displays events related to Serial and KVM (Video Viewer) sessions.

See *DSView software events* on page 404 for a list of all possible audit log descriptions.

Using the Date Filter

When viewing audit log entries, an additional filter is available that allows you to view either all events of a particular type or a series of events between two specific periods.

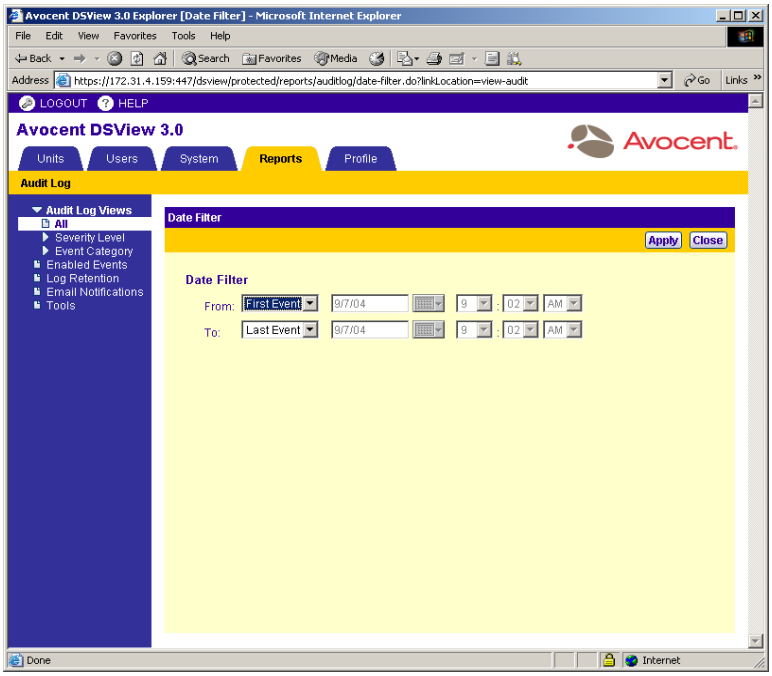


Figure 10.2: Date Filter Window

To view all events of a particular type:

1. From an Audit Log window, click *Date Filter*. The Date Filter window will appear.
2. In the first drop-down menu in the From line, select *First Event*.
3. In the first drop-down menu in the To line, select *Last Event*.
4. Click *Apply*. The previous audit log view window will appear including all events.

To view audit log entries between two specific periods using the date filter:

1. From an Audit Log window, click *Date Filter*. The Date Filter window will appear.
2. In the first drop-down menu in the From line, select *Events On* to pick the start date and time for audit log events you wish to view.

3. Click on the calendar button or the field to the left of the calendar button and select a start date. To use the calendar:
   a. Click on the year and select a year from the drop-down menu that will appear.
   b. Click on the month name and select a month from the drop-down menu that will appear.

      -or-

      Use the arrows at the top of the calendar to move forward and backward by month.
   c. Click on a day in the calendar to dismiss the calendar and fill the field to the left of the calendar with the date you have selected.
4. Select an hour, minute and which half of the day for the start date.
5. In the first drop-down menu in the To line, select *Events On* to pick the end date and time for audit log events you wish to view.
6. Repeat steps 3 and 4 to specify the end date period.
7. Click *Apply*. The previous audit log view window will appear with the event range specified in the Filter Date window. The Clear Date Filter button will appear in the audit log view window. Clicking the button will display all events available for the event type in the window and the button will no longer be available in the window.

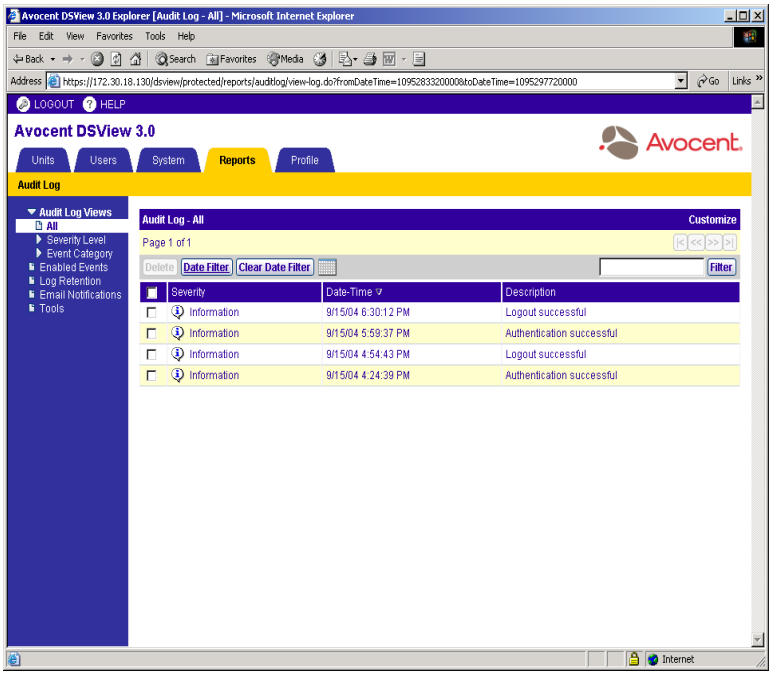


Figure 10.3: Audit Log - All Window with Clear Date Filter Button

Viewing the Details of Audit Log Events

You may view all logged information about a specific audit log event.

To view the details of an event in the audit log:

1. From an Audit Log window, click on the link in the Severity column for which you wish to view details. The Audit Log Event Information window will appear and contain information about the audit log entry.

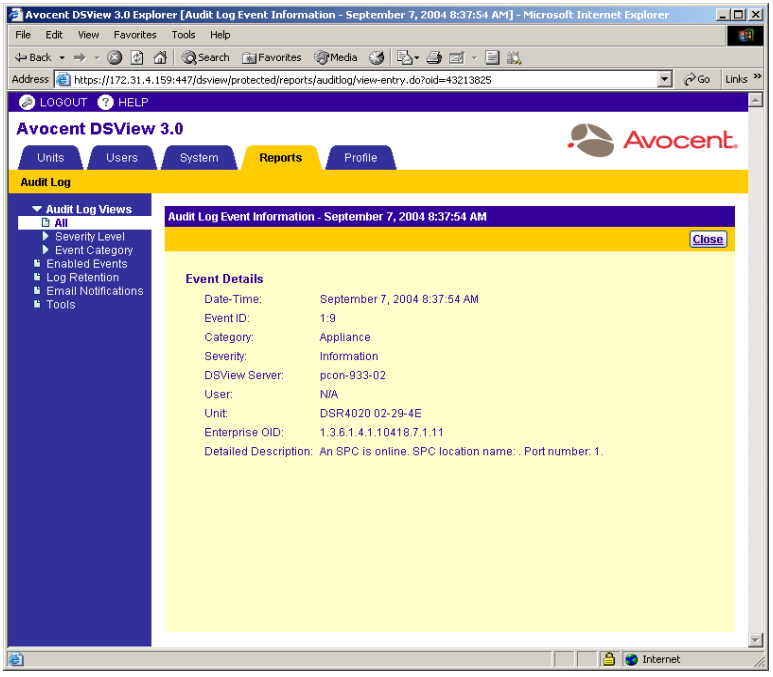


Figure 10.4: Audit Log Event Information Window

NOTE: Trap Enterprise in the Audit Log-All window is named Enterprise OID in the Audit Log Event Information window.

---

2. Click *Close*. The Audit Log window will appear.

Deleting Audit Log Events

To delete an event from the audit log:

1. From an Audit Log window, click the checkbox to the left of the event(s) you wish to delete.

   -or-

   Click the checkbox to the left of Severity at the top of the list to select all events listed in the window for deletion.
2. Click *Delete*. A confirmation dialog box will appear.
3. Click *OK* to delete the event(s)

   -or-

   Click *Cancel* to cancel the action.

Enabling and Disabling Audit Log Events

Events occurring on your DSView system may be disabled using the Enabled Audit Log Events window. When an event is disabled, its State will appear as Disabled and the event will not be logged until it is reenabled. An event may be reenabled by selecting it and clicking *Enable*.

You may change the number of items that display in the Enabled Audit Log Events window by clicking the *Customize* link. See *Using the Customize Link in DSView Software Windows* on page 15 for more information.

To enable or disable an event in the audit log:

1. From the side navigation bar, click *Enabled Events*. The Enabled Audit Log Events window will appear and display a listing of all enabled and disabled audit log events.

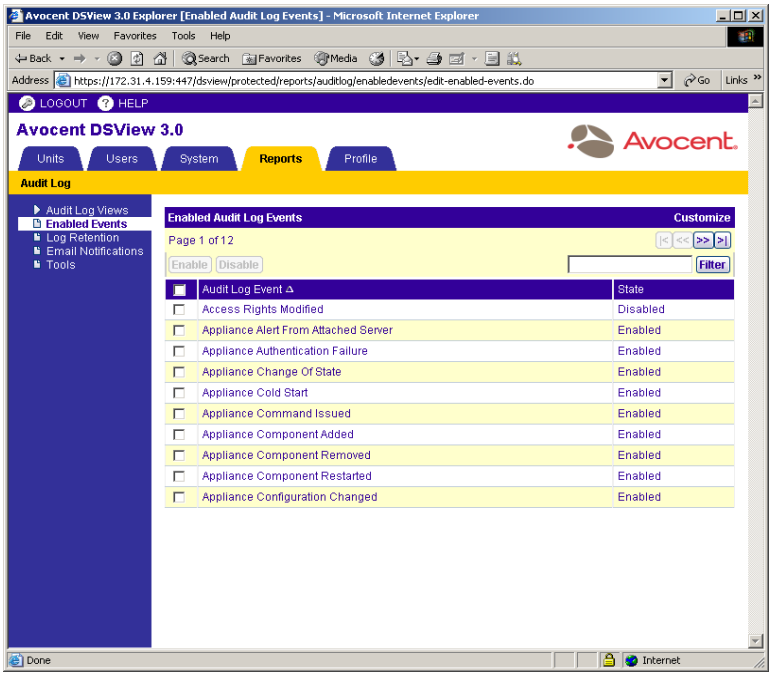


Figure 10.5: Enabled Audit Log Events Window

2. Click the checkbox to the left of an enabled event you wish to disable or a disabled event you wish to enable.

   -or-

   Click the checkbox to the left of Audit Log Event at the top of the list to select all events listed in the window.

NOTE: Events may not be enabled until then they are disabled.

3. Click *Enable* to enable the selected events.

   -or-

   Click *Disable* to disable the selected events.

   The Enabled Audit Log Events window will appear including the updated status of the listed events.

Retaining the Audit Log

By default, an audit log is retained for one week. However, you may specify a retention time of up to one year.

NOTE: Audit log information is stored in the DSView software database and is replicated. Increasing the audit log retention time may impact the performance of your DSView system. It is recommended that old audit log entries be archived to .csv files by scheduling tasks. See *Managing Tasks* on page 368 for more information.

To specify an audit log retention time:

1. From the side navigation bar, click *Log Retention*. The Audit Log Retention Time window will appear.

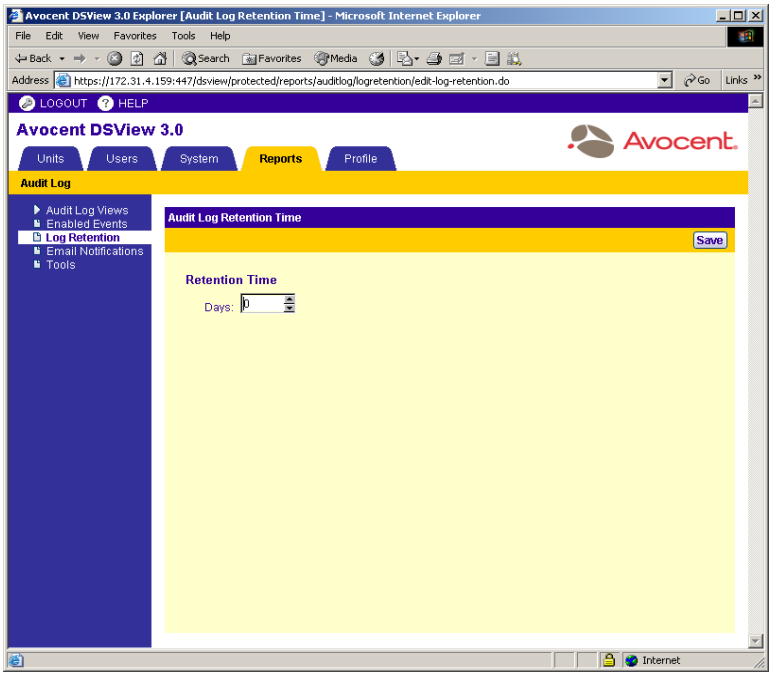


Figure 10.6: Audit Log Retention Time Window

2. Type a number of days (from 1-365) in the Days field, or select it using the drop-down menu.
3. Click *Save* to save your changes.

Configuring Email Notifications

NOTE: The Simple Mail Transfer protocol (SMTP) must be configured to receive email notifications about audit events.

The DSView software may be configured to send one or more users email notifications when events occur. All configured email notifications will appear in the Email Notifications window. The Email Notifications window is displayed by clicking *Email Notifications* in the side navigation bar.

Email notifications may be added by clicking *Add*, which accesses the Add Email Notification wizard. Multiple events may be configured so that an email is sent to the defined users any time one of the specified events occurs. See *DSView software events* on page 404 for a list of events.

Once an email notification has been defined, you may click on its name in the Email Subject field to modify the sender, recipients and events that trigger the sending of an email.

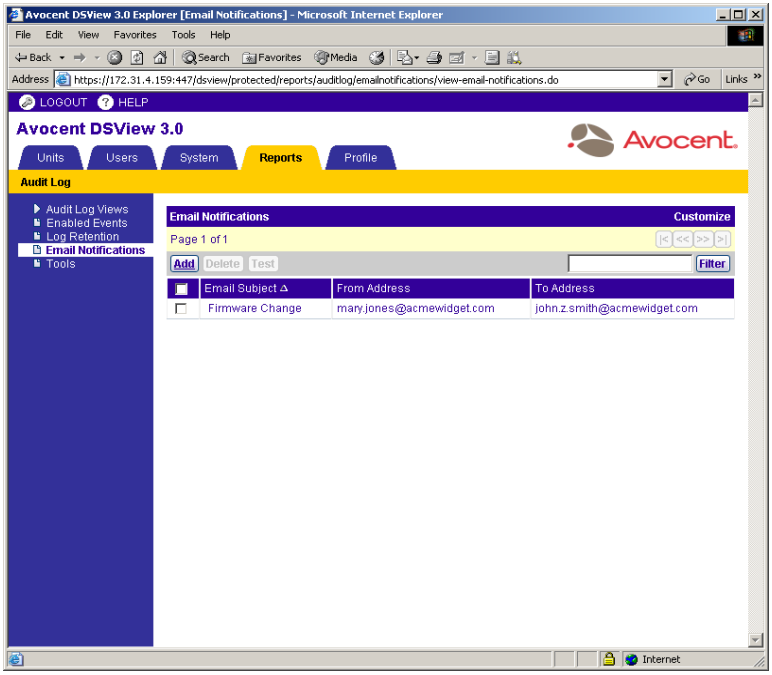


Figure 10.7: Email Notifications Window

Customizing the Email Notifications Window

The following column is always displayed in the Email Notifications window:

- Email Subject - Displays the subject line of a notification.

The following columns are displayed in the Email Notifications window and may be turned off by clicking the *Customize* link:

- From Address - Displays the email address of the send of a notification.
- To Address - Displays the email addresses of the recipients of a notification.

See *Using the Customize Link in DSView Software Windows* on page 15 for information on using the Customize link.

To configure an email notification:

1. From the side navigation bar, click *Email Notifications*. The Email Notifications window will appear.
2. Click *Add*. The Welcome page of the Add Email Notification Wizard will appear. Click *Next*.
3. The Specify Email Properties window will appear.

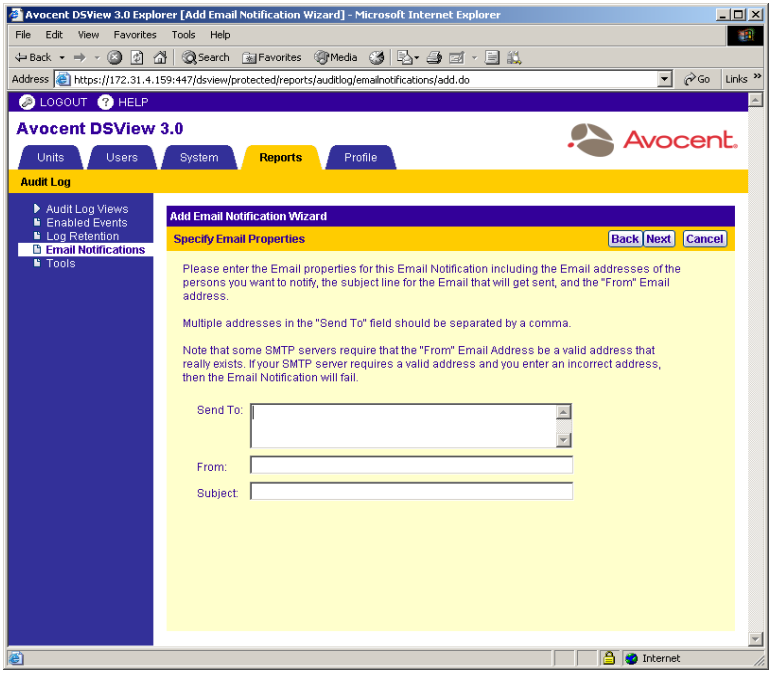

Avocent DSView 3.0 Explorer [Add Email Notification Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/reports/auditlog/emailnotifications/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Audit Log
Audit Log Views
Enabled Events
Log Retention
Email Notifications
Tools
Add Email Notification Wizard
Specify Email Properties
Back Next Cancel
Please enter the Email properties for this Email Notification including the Email addresses of the persons you want to notify, the subject line for the Email that will get sent, and the "From" Email address.
Multiple addresses in the "Send To" field should be separated by a comma.
Note that some SMTP servers require that the "From" Email Address be a valid address that really exists. If your SMTP server requires a valid address and you enter an incorrect address, then the Email Notification will fail.
Send To:
From:
Subject:
Internet

Figure 10.8: Add Email Notification Wizard - Specify Email Properties Window

a. Type the names of all individuals that you wish to receive a notification in the Send To field. Multiple users may be added by separating each email address with a comma (,).

NOTE: The Send To field has a maximum limit of 1024 characters.

b. Type the email address of the person you wish to designate as the sender of the notification in the From field.

NOTE: The From field has a maximum limit of 64 characters.

c. Type a subject heading for the notification in the Subject field.

NOTE: The Subject field has a maximum limit of 64 characters.

d. Click *Next*.

4. The Select Events to Trigger Email Notification window will appear.

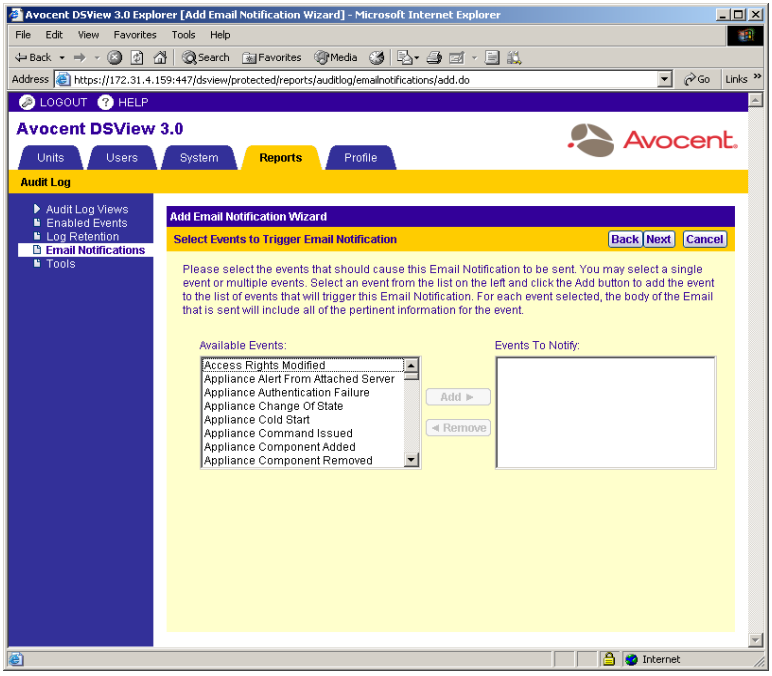

Avocent DSView 3.0 Explorer [Add Email Notification Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address https://172.31.4.159:447/dsview/protected/reports/auditlog/emailnotifications/add.do
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Audit Log
Audit Log Views
Enabled Events
Log Retention
Email Notifications
Tools
Add Email Notification Wizard
Select Events to Trigger Email Notification
Back Next Cancel
Please select the events that should cause this Email Notification to be sent. You may select a single event or multiple events. Select an event from the list on the left and click the Add button to add the event to the list of events that will trigger this Email Notification. For each event selected, the body of the Email that is sent will include all of the pertinent information for the event.
Available Events:
Access Rights Modified
Appliance Alert From Attached Server
Appliance Authentication Failure
Appliance Change Of State
Appliance Cold Start
Appliance Command Issued
Appliance Component Added
Appliance Component Removed
Add
Remove
Events To Notify:
Internet

Figure 10.9: Select Events to Trigger Email Notification Window

a. Add or remove events that will cause an email to be sent to the specified individuals.

To add an event:

- Select the event you wish to add to the notification from the Available Events list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Add*. The event(s) will be moved to the Events to Notify list.
- To remove an event already assigned to the notification:

- Select the event you wish to remove from the Events to Notify list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Remove*. The events will be moved to the Available Events list.

b. Click *Next*.

5. The Completed Successful window will appear. Click *Finish*.

Modifying email notifications

To modify an email notification:

1. From the side navigation bar, click *Email Notifications*. The Email Notifications window will appear.
2. Click on the email subject of the notification you wish to modify. The Email Notification Properties window will appear.

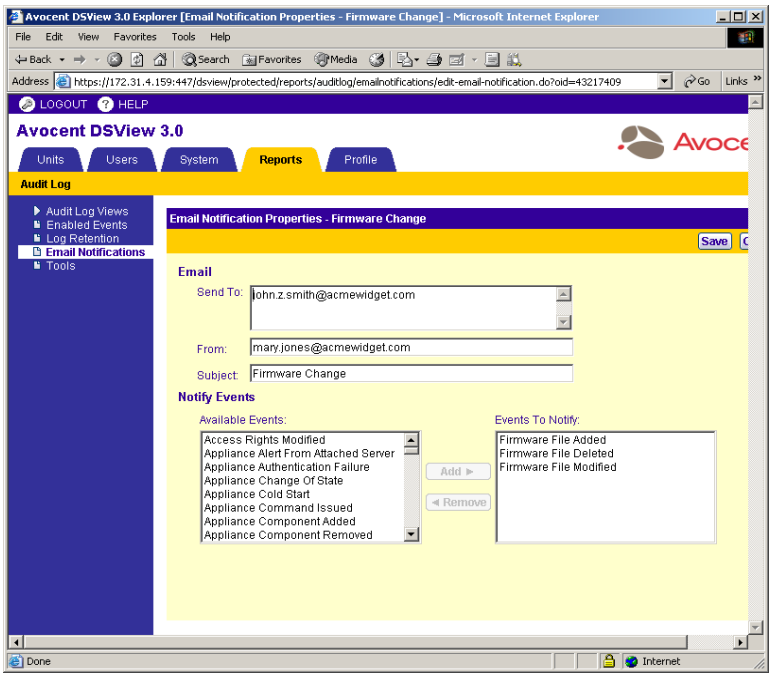


Figure 10.10: Email Notification Properties Window

3. Modify the notification:
   a. Type the names of or remove any individuals that you wish to receive the notification in the Send To field. Multiple users may be added by separating each email address with a comma (,).

NOTE: The Send To field has a maximum limit of 1024 characters.

b. Modify the email address of the person you wish to designate as the sender of the notification in the From field.

NOTE: The From field has a maximum limit of 64 characters.

c. Modify the subject heading for the notification in the Subject field.

NOTE: The Subject field has a maximum limit of 64 characters.

d. Add or remove events that will cause an email to be sent to the specified individual(s).

To add an event:

- Select the event you wish to add to the notification from the Available Events list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Add*. The events will be moved to the Events to Notify list.
- To remove an event already assigned to the notification:
- Select the event you wish to remove from the Events to Notify list. Multiple events may be selected by pressing **Ctrl** while clicking on the event names.
- Click *Remove*. The events will be moved to the Available Events list.

NOTE: See *DSView software events* on page 404 for a listing of all possible events.

4. Click *Save* to save your changes.
5. Click *Close*. The Email Notifications window will appear including the renamed notification.

Deleting email notifications

To delete an email notification:

1. From the side navigation bar, select *Email Notifications.* The Email Notifications window will appear.
2. Click the checkbox to the left of the notifications you wish to delete.

   -or-

   Click the checkbox to the left of Email Subject at the top of the list to select all notifications listed in the window for deletion.
3. Click *Delete*. A confirmation dialog box will appear.
4. Click *OK* to delete the notifications

   -or-

   Click *Cancel* to cancel the action.

Testing email notifications

Once an email notification has been created, you may send a test message to ensure that the notification is delivered to the specified recipients.

To test an email notification:

1. From the side navigation bar, select *Email Notifications.* The Email Notifications window will appear.
2. Click the checkbox to the left of the notification(s) you wish to test.

   -or-

   Click the checkbox to the left of Email Subject at the top of the list to select all notifications listed in the window for testing.
3. Click *Test*. A confirmation dialog box will appear.
4. Click *OK* to send the test notification(s).

   -or-

   Click *Cancel* to cancel the action.

Using the Audit Log Tool

All or selected columns of the audit log can be exported as a comma separated values (.csv) file. The output audit log file is named auditlog.csv by default, but you may change the name when it is saved.

The fields that may be exported correspond with those that appear in the Audit Log windows. See *Customizing the Audit Log window* on page 402 for more information.

The .csv file may be viewed in a text editor or spreadsheet application, such as Microsoft Excel.

NOTE: The audit log may also be exported to a .csv file by creating a task. See *Managing Tasks* on page 368 for more information.

To create an auditlog .csv file:

1. From the side navigation bar, select *Tools*. The Audit Log Tools window will appear.

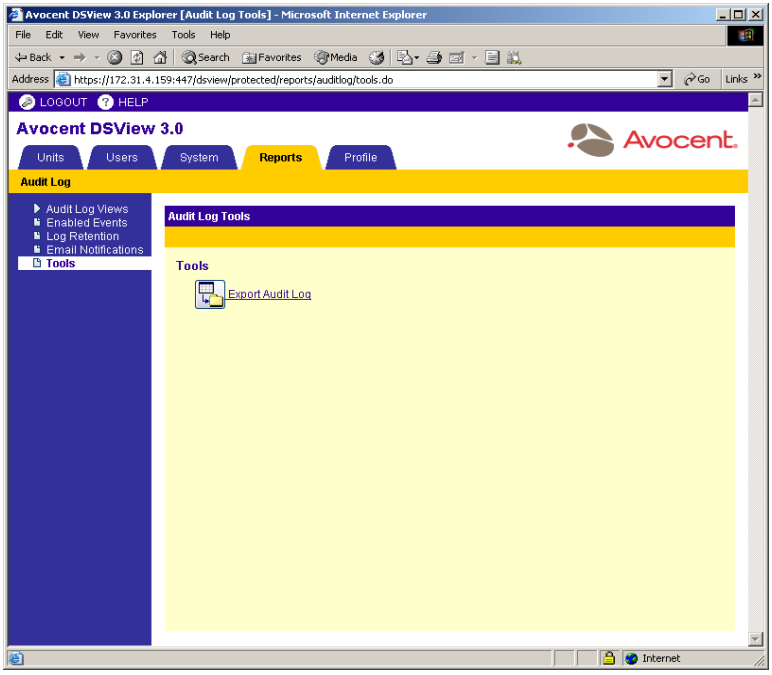


Figure 10.11: Audit Log Tools Window

2. Click the *Export Audit Log* icon or text. The Welcome page of the Export Audit Log Wizard will appear.
   a. Click *Next*.
3. The Select Columns to Export window will appear.

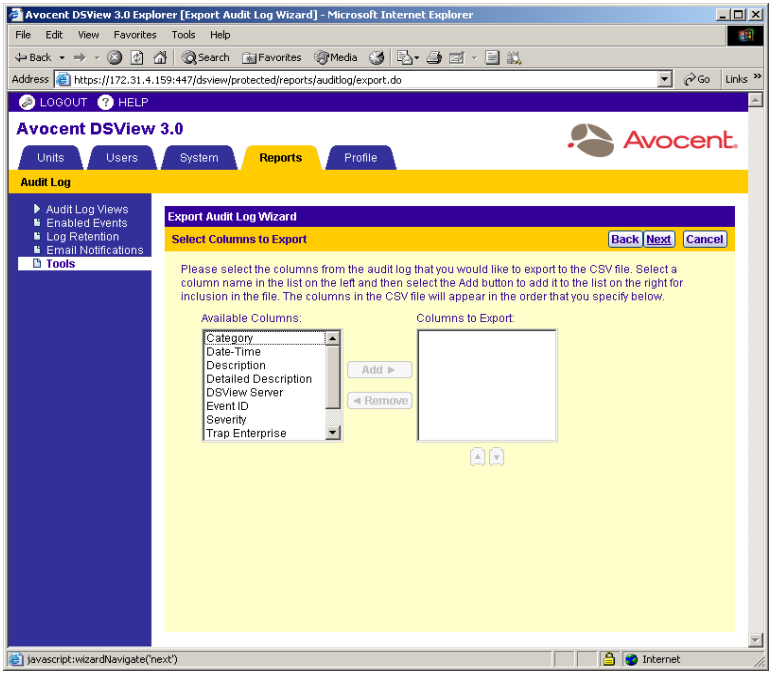

Avocent DSView 3.0 Explorer [Export Audit Log Wizard] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://172.31.4.159:447/dsview/protected/reports/auditlog/export.do
Go Links
LOGOUT HELP
Avocent DSView 3.0
Avocent
Units Users System Reports Profile
Audit Log
Audit Log Views
Enabled Events
Log Retention
Email Notifications
Tools
Export Audit Log Wizard
Select Columns to Export
Back Next Cancel
Please select the columns from the audit log that you would like to export to the CSV file. Select a column name in the list on the left and then select the Add button to add it to the list on the right for inclusion in the file. The columns in the CSV file will appear in the order that you specify below.
Available Columns:
Columns to Export:
Category
Date-Time
Description
Detailed Description
DSView Server
Event ID
Severity
Trap Enterprise
Add
Remove
javascript:wizardNavigate('next')
Internet

Figure 10.12: Export Audit Log Wizard - Select Columns to Export Window

a. Add or remove the columns of information that you wish to export.

To add a column of information:

- Select the column you wish to export from the Available Columns list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
- Click *Add*. The columns will be moved to the Columns to Export list.

To remove a column of information:

- Select the column you wish to remove from the Columns to Export list. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.
- Click *Remove*. The columns will be moved to the Available Columns list.

b. To change the order in which exported columns are listed in the output .csv file, select the columns in the Columns to Export list and use the up and down arrows to move the selected columns up or down in the listing. Multiple columns may be selected by pressing **Ctrl** while clicking on the column names.

c. Click *Next*.

4. The Save Process window will appear explaining how the file will be saved. Click *Next*.
5. The Completed Successful window will appear, along with a File Download dialog box.

6. From the File Download dialog box, click *Open*. The file will be downloaded and will open on the DSView Client. By default, .csv files are configured to open in Microsoft Excel. If Microsoft Excel is not installed on your computer, you will be prompted to select a text editor to use for opening the .csv file.

   -or-

   From the File Download dialog box, click *Save*. The Save As dialog box will appear. Select a directory and file name and click *Save* to save the .csv file.

   -or-

   Click *Cancel* to cancel the action.

7. Click *Finish*. The Audit Log Tools window will appear.

Appendices

Appendix A: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service:

1. Check the pertinent section of the manual to see if the issue may be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the online service request.
3. Call Avocent Technical Support for assistance at (888) 793-8763. Visit the Avocent web site at http://www.avocent.com/support and click on *Support Phone Numbers* for current phone support hours.

Appendix B: TCP Ports

The DSView Client accesses the DSView Server and perform commands using a standard web browser. The communication protocol used between the DSView Client web browser and the DSView Server is the HTTPS protocol. By default, TCP/IP port 443 is used for HTTPS connections, but you may change the port using the DSView Server Network Properties window.

NOTE: The port used for the HTTPS connection may be changed using the DSView Server Network Properties window. The HTTPS port must be specified in the web browser URL if changed from the default (port 443). See *Hub DSView Server Properties* on page 56 for more information.

DSView Clients may communicate with the DSView Server through a standard connection or using a proxy server. By default, TCP/IP port 1078 is used for proxied connections. If a proxy connection has not been created, TCP ports 22, 2068 and 8192 must be configured as open on your firewall.

DSR switch ports

A DSView user may initiate a KVM session with a target device on a DSR switch by clicking *KVM Session* for the appropriate target device or by clicking the *KVM Session* icon or text from a Unit Overview window.

The DSView Client contacts the DSView Server, which checks the permissions of the target device. If the logged in DSView user has permissions to establish Video Viewer sessions to the selected target device, the DSView Server will establish a connection to the DSR switch using TCP/IP port 3871 to authorize the session. The KVM data is sent to the DSR switch using ports 8192 and 3871. Port 8192 contains the video portion of the KVM data. Port 2068 contains the keyboard and mouse portion of the KVM data.

In a non-proxied connection, the video data from port 8192 and the keyboard and mouse data from port 2068 are sent directly from the DSView Client to the DSR switch. Figure B.1 illustrates the ports used with a non-proxied DSR switch connection.

UDP port 3211 is used by the DSView Server to initialize the IP configuration of DSR switches. TCP/IP port 3211 is also used by the DSView Server to perform management functions on DSR switches, such as configuring settings.

NOTE: When using a non-proxied connection, video performance over a slower network connection may be less than optimal. Since certain color settings (such as Gray Scale) use less network bandwidth than others (such a Best Color), changing the color settings may increase video performance. For optimal video performance over a slower network connection, a color setting such as Gray Scale/Best Compression or Low Color/High Compression is recommended. See *Adjusting color depth* on page 251 for more information.

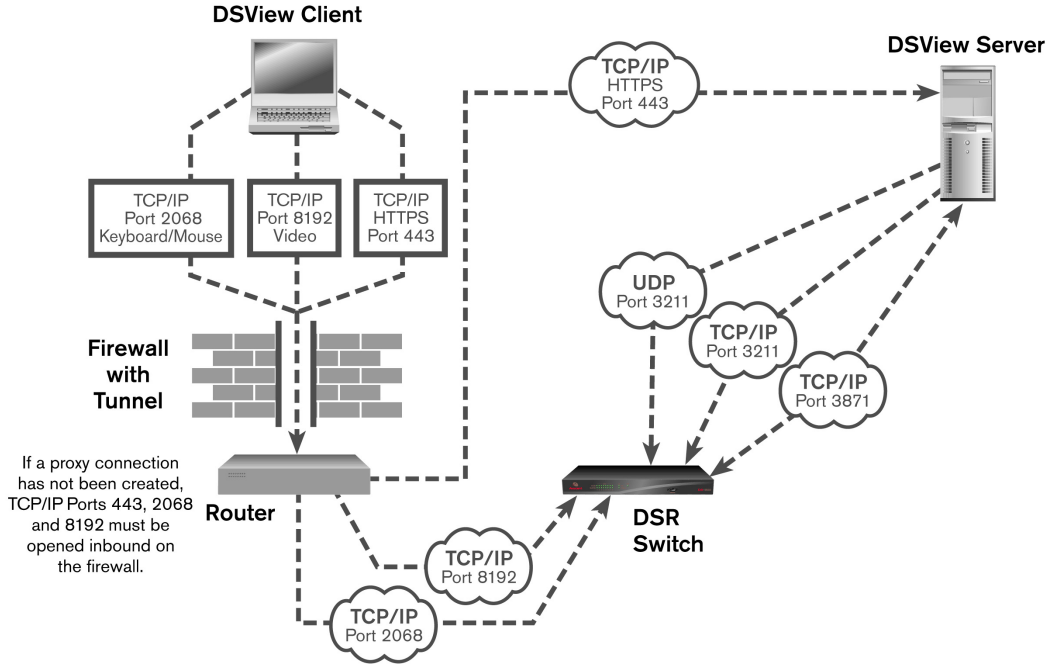


Figure B.1: Ports Used with a DSR Switch Connection (KVM) Without Proxy

In a proxied connection, communication with TCP/IP ports 8192 and 2068 occurs between the DSView Server and the DSR switch instead of directly between the DSView Client and the DSR switch. The DSView Client receives information by communicating back and forth with the DSView Server using port 1078. Figure Figure B.2 illustrates the ports used with a proxied DSR switch connection.

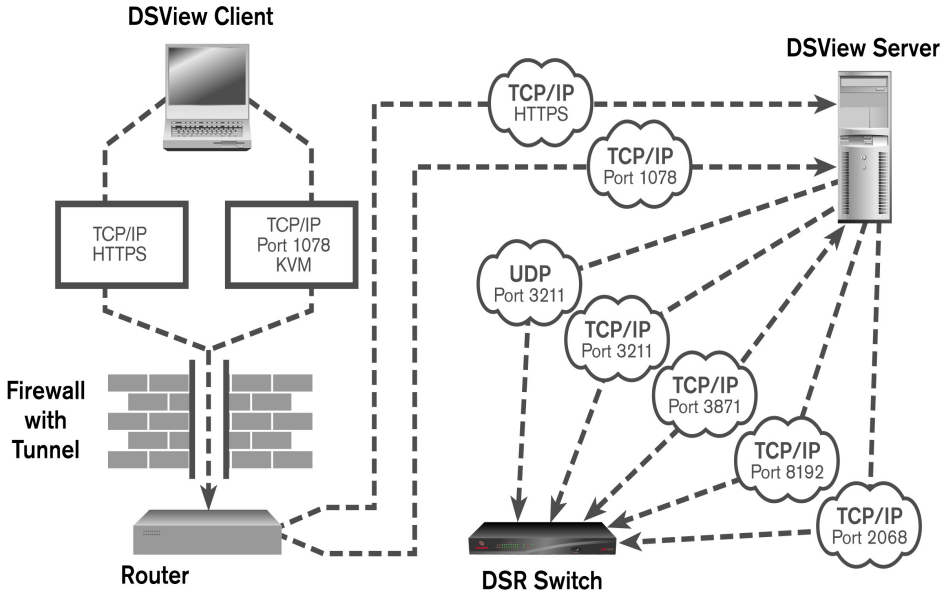


Figure B.2: Ports Used with a DSR Switch Proxy Server Connection (KVM)

If the DSView user wishes to establish a session with another port on the DSR switch, the same process is used.

For debugging purposes, connection details may be seen by using the console port to place the DSR switch into Debug mode.

CPS appliance ports

Like a DSR switch, a CPS appliance may use a non-proxied or a proxied connection. CPS appliances use a Secure Shell Protocol (SSH).

The DSView Client contacts the DSView Server, which checks the permissions of the target device. If the logged in DSView user has permissions to establish sessions to the selected target device, the DSView Server will establish a connection to the DSR switch using TCP/IP port 3871 to authorize the session.

In a non-proxied SSH connection, the DSView Client communicates directly with the CPS appliance using port 22. Figure B.3 illustrates the ports used with a non-proxied CPS appliance connection.

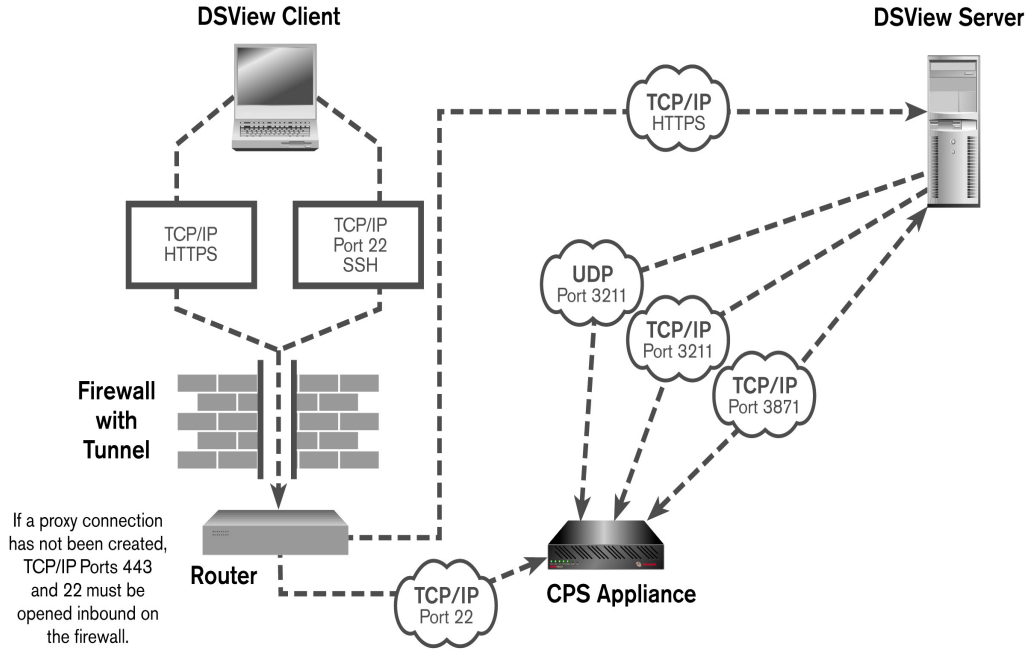


Figure B.3: Ports Used with A CPS Appliance Connection (Serial) Without Proxy

In a proxied connection, communication between the DSView Server and CPS appliance occurs over port 22. The SSH connection between the DSView Client and the DSView Server is tunneled over port 1078. Figure B.4 illustrates the ports used with a proxied CPS appliance connection.

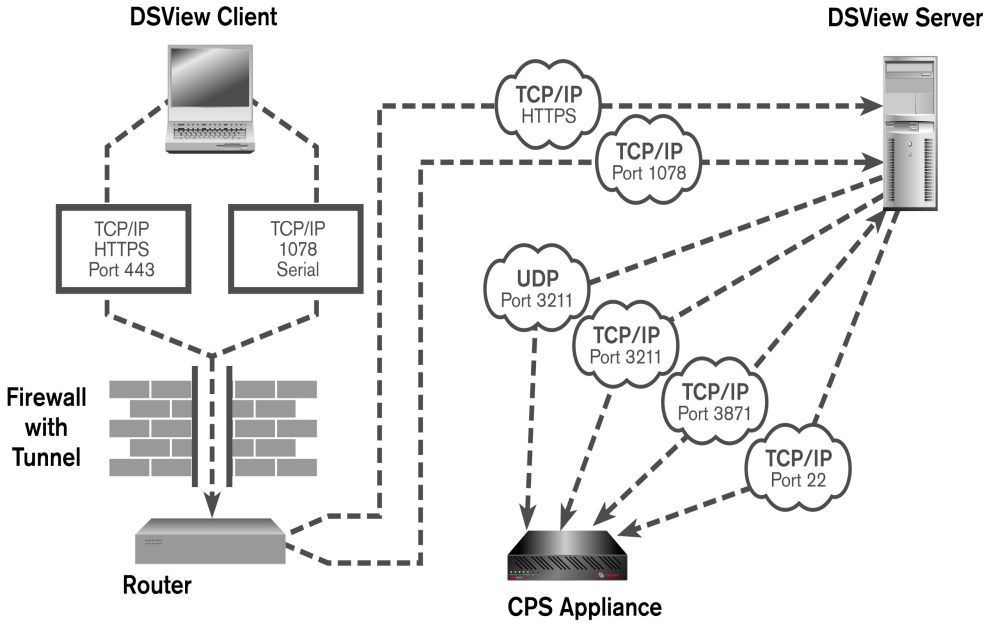


Figure B.4: Ports Used with A CPS Appliance Proxy Server Connection (Serial)

DSView Server ports

The DSView Server uses the HTTPS port for communication with DSView Clients and Spoke DSView Servers. Changes made to the browse list through the DSView 3.0 management software are transmitted back to the DSView Server host, which refreshes its browse list view over the TCP/IP port 443 connection. Changes to the DSView software are also copied to and from the Hub DSView Server over the specified HTTPS port.

Generic appliance ports

If you are using a generic appliance in your DSView system, you may use a Telnet connection through TCP/IP port 23, or an HTTP connection through TCP/IP port 80. The connection is made directly between the DSView Client and the generic appliance.

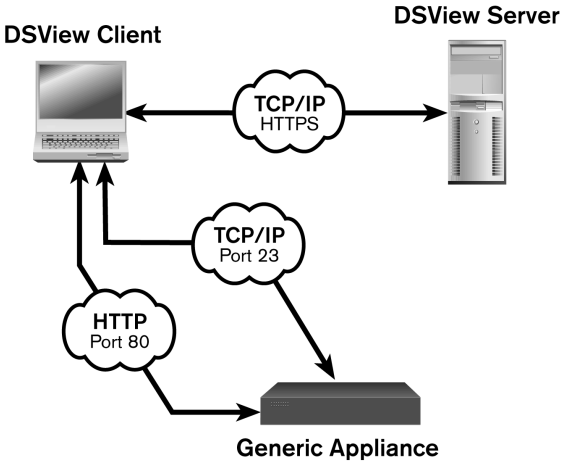


Figure B.5: Generic Appliance Session Ports

If Active Directory or LDAP external authentication is being used within your DSView system, TCP/IP ports 389 and 636 are used for connections between the DSView Server and the external authentication server. Port 389 is typically used for non-SSL connections and port 636 is used for SSL connections. You may configure the ports used by an Active Directory or LDAP external authentication server using the Authentication Service Connection Settings window. See See *Modifying LDAP external authentication services* on page 96 for more information.

External authentication ports

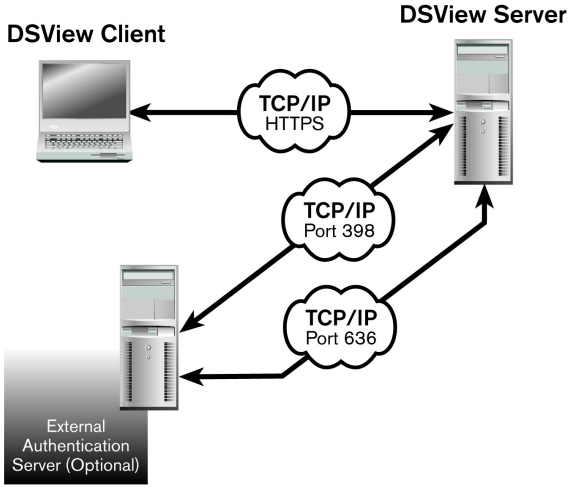


Figure B.6: External Authentication Server Ports

SNMP ports

A DSR switch or CPS appliance may be configured to send SNMP traps to the DSView Server in addition to an external SNMP manager.

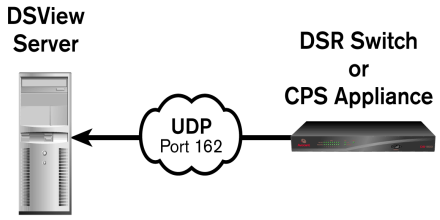


Figure B.7: Ports Used by SNMP (No External SNMP Manager)

If an external SNMP manager has been added to your DSView 3.0 management system, communication occurs between the SNMP manager and the DSR switch or CPS appliance, as shown in Figure B.8.

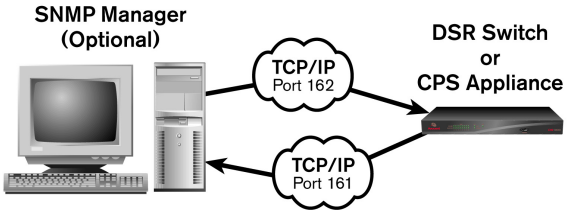


Figure B.8: Ports Used by SNMP (with External SNMP Manager)

Appendix C: DSR Remote Operations Software

The DSR Remote Operations software provides a subset of DSView 3.0 management software functionality that allows access to a DSR switch when an Ethernet connection is not available. For example, if you are in a branch office and your Ethernet network is down, you may still access your remote server network by attaching a v.34, v.90 or v.92-compatible modem to the modem port on a DSR switch for KVM access, administration and flexible server management control from anywhere in the world.

The following DSView software operations are supported:

- Establishing a KVM Session to a target device connected to the switch
- Controlling the power sockets of an SPC device attached to the DSR switch power port
- Rebooting the switch
- Retrieving and displaying the switch version.

All other DSView software options are not available when using the DSR Remote Operations software.

The following Video Viewer window commands are not available when using the DSR Remote Operations software:

- Viewing connected users
- Creating, editing, copying and deleting macros

NOTE: Only the default Windows and Sun macro groups are available when using the Remote operations software.

- Background refresh

An external modem may be attached to the PPP modem interface of the following DSR switch models to use the DSR Remote Operations software:

- DSR1021 switch
- DSR1022 switch
- DSR1024 switch
- DSR1020, 2020 and 4020 switch

A modem/PPP dial-up connection must be established before the DSR Remote Operations software may be started, run or executed. The dial-up connection options should be set to 115200 baud, 8 bits, 1 stop bit, no parity and enabled hardware flow control. The remote operations application must be started within the authentication time-out specified in the Terminal Applications menu of the DSR switch or the PPP (modem) link will be disconnected. See the DSR switch installer/user guide for more information about setting the authentication time-out.

Once a modem dial-up connection is established with the switch, select *Start - Programs - Avocent DSView 3.0 - DSR Remote Operations* on a client computer containing the software. Log in using a valid username and password to establish a DSR Remote Operations software session with the DSR switch over the modem link.

The DSR Remote Operations software uses an SSL-based connection to the DSR switch to authenticate the DSView user.

If the DSView Server is unreachable, the switch will use its internal database to perform remote authentication. If the internal database of the DSR switch fails to authenticate the DSView user when a log in is attempted, or the user does not log in before the specified time out of the DSR switch, the modem connection will be disconnected.

NOTE: DSView users may be managed within the internal database of the DSR switch using the PPP Configuration menu. See the installer/user guide for your DSR switch for more information.

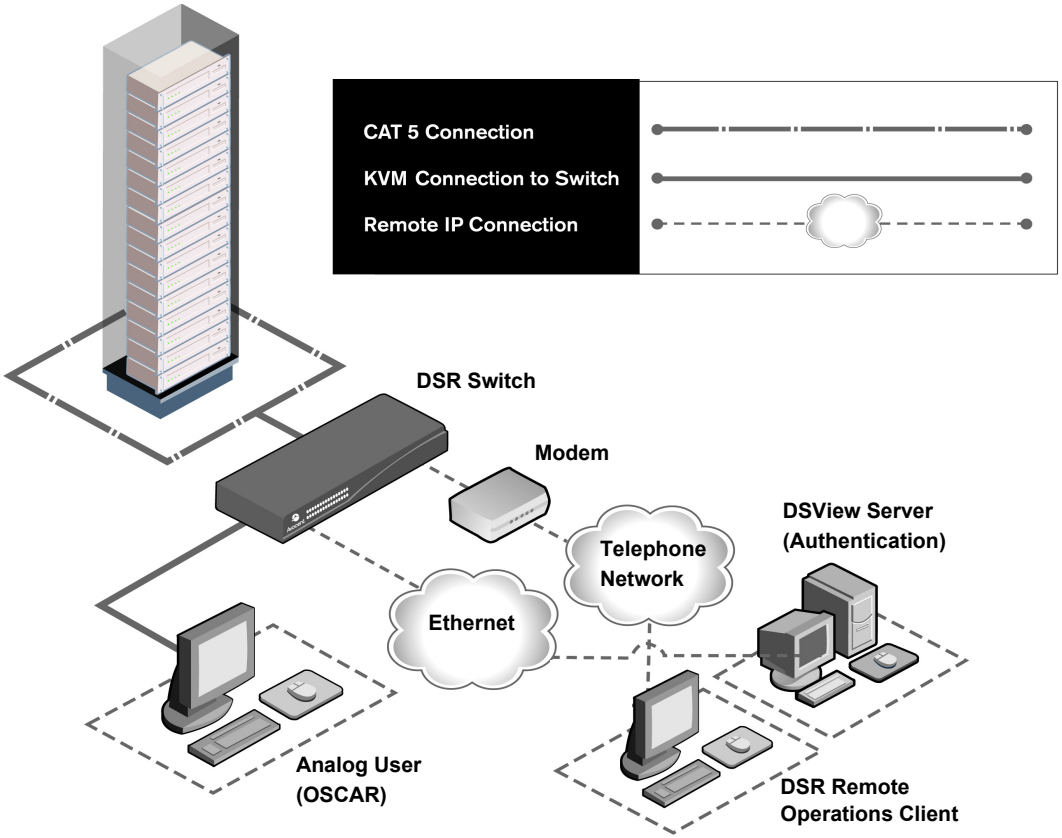


Figure C.1: Using the DSR Remote Operations Software with a DSR Switch

See *Installing the DSR Remote Operations Software (Optional)* on page 43 for installation information.

Window features

When you have launched the software and successfully logged in, the DSR Remote Operations window will display the list of DSView Servers connected to the DSR switch. Figure C.2 shows the DSR Remote Operations window areas, and descriptions follow in Table C.1.

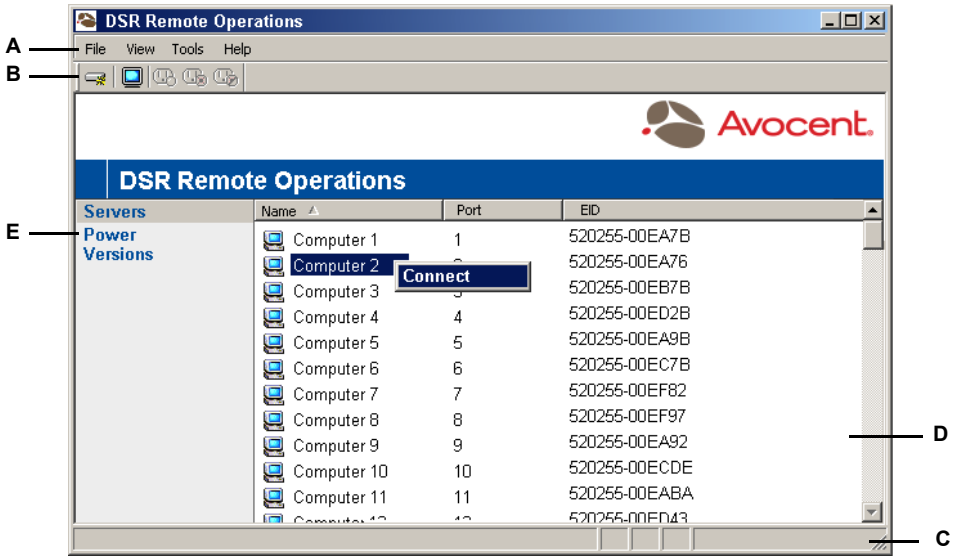


Figure C.2: DSR Remote Operations Window

Table C.1: DSR Remote Operations Descriptions

Letter	Description
A	Menu bar: Allows you to access many of the features in the DSR Remote Operations window.
B	Toolbar: Provides shortcut buttons for quickly accessing commands in the Tools menu.
C	Status Bar: Displays the tips for selected menu items and the progress of operations.
D	Content Area: Use this area to display information from the DSR switch and control and start DSView sessions to the DSR switch.
E	Side Navigation Bar: Displays the DSR switching system information you wish to access, which displays in the Content Area.

Content area views

The items displayed in the content area of the DSR Remote Operations window will vary, depending on which link has been selected in the side navigation bar.

Servers view

When Servers is selected, a list of servers attached to the switch will appear. The following items for each server will appear in the content area:

- Name - The name of the server
- Port - The switch port to which the server is attached
- EID - The Electronic ID number (EID) of the DSRIQ module attached to the server

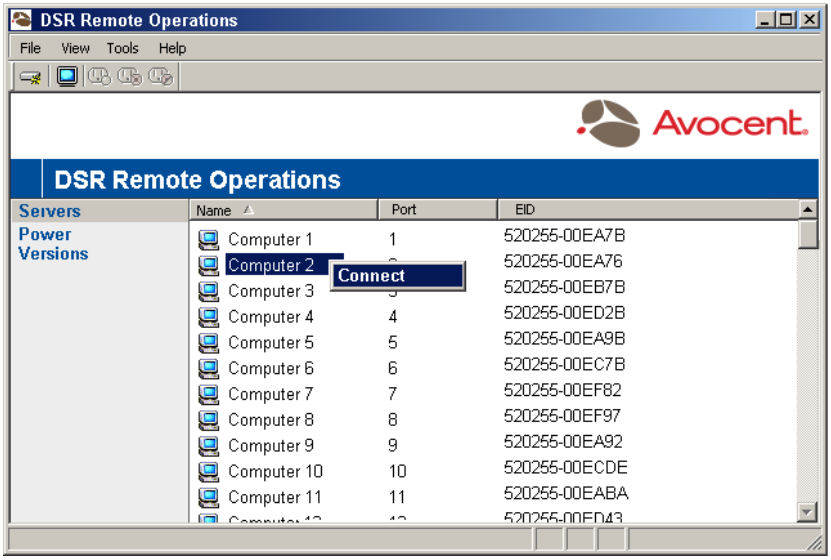


Figure C.3: DSR Remote Operations Window (Servers View)

Specific icons also appear in the Server view. These icons are outlined in Table C.2.

Table C.2: DSR Remote Operations Content Area Icons (Servers View)

Icon	Description
	A target device that is powered up and has no established KVM Video Viewer sessions.
	A target device that has an active KVM Video Viewer session.
	A target device that is not powered up
	A target device that is powered up but cannot establish a KVM connection because the path to the target device is blocked (for example, a cascade switch has only one user port and that port is already connected to another target device).

Power view

Selecting *Power* in the side navigation bar of the DSR Remote Operations window will display a list of SPC sockets attached to the switch and their powered up or powered down status.

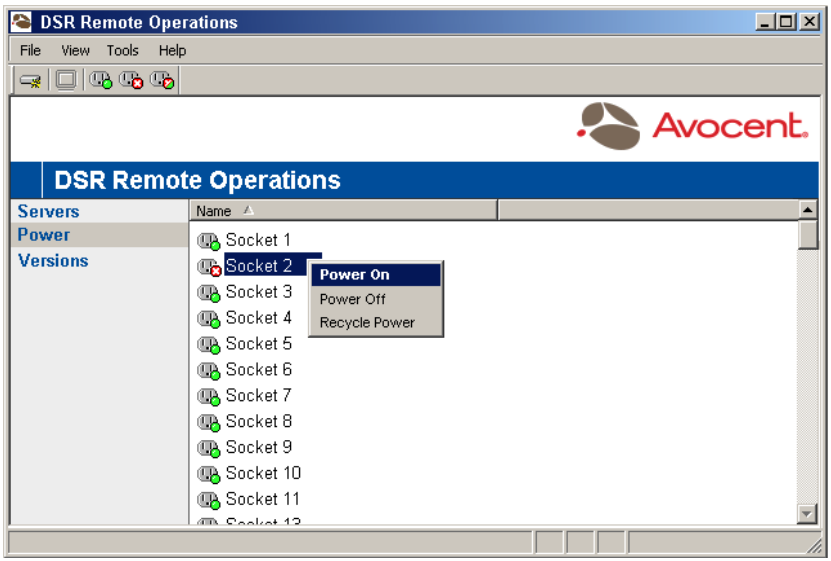


Figure C.4: DSR Remote Operations Window (Power View)

Specific icons also appear in the Power view. These icons are outlined in Table C.3.

Table C.3: DSR Remote Operations Content Area Icons (Power View)

Icon	Description
	The SPC socket is powered up
	The SPC socket is powered down

Version view

Selecting *Version* in the side navigation bar of the DSR Remote Operations window will display version information for the switch.

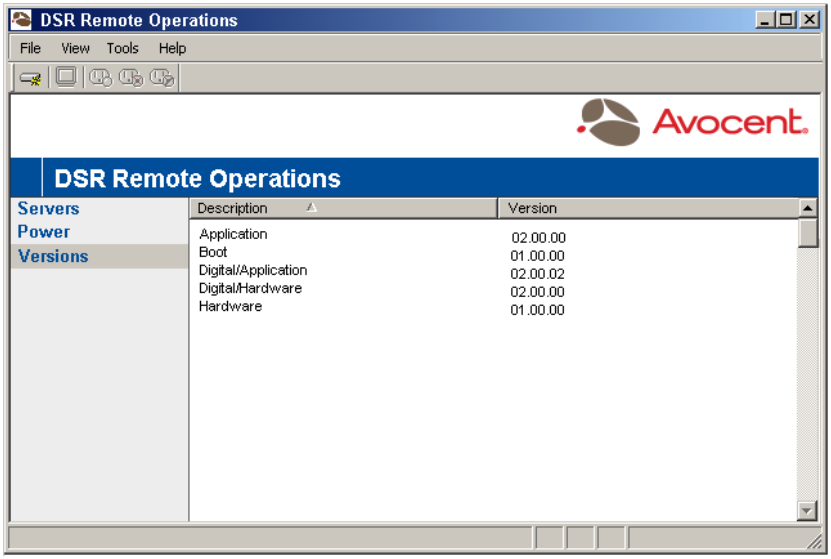


Figure C.5: DSR Remote Operations Window (Versions View)

Before you begin

The following actions should be performed before using the DSR Remote Operations command:

- Ensure that the switch is configured. See the installer/user guide for the DSR switch for more information.
- Ensure that DSView users have been added to the internal database of the DSR switch. If the DSView Server is not available, the appliance database is used for appliance authentication. If neither are available, authentication cannot be performed for the switch and an error will be

displayed by the DSR Remote Operations software. See the installer/user guide for the DSR switch for more information.

- Ensure that an external modem is attached to the modem port of the DSR switch. The modem port should have auto-answer turned off (typically a modem's default setting).
- Ensure that the PC containing the DSView Client interface has dial-up software and that the software is configured properly. See your operating system documentation for more information.
- Ensure that you are using one of the following supported operating systems: Windows NT 4.0 Workstation or Server with Service Pack 6a or later; Windows 2000 Workstation or Server with Service Pack 2 or later; or Windows XP Home Edition or Professional.

To use the DSR Remote Operations command:

1. Establish a dial-up connection to the switch from the PC containing the DSR Remote Operations software.

NOTE: Windows displays a dialog box that prompts the DSView user for a username and password when a dial-up connection is established. It is not necessary to enter a username or password in the dialog box. When this dialog box appears, click *OK* to dismiss the dialog box.

2. Once the connection has been established, select *Start - Programs - Avocent DSView 3.0 - DSR Remote Operations* to start the DSR Remote Operations software on the PC. The Login dialog box will appear.

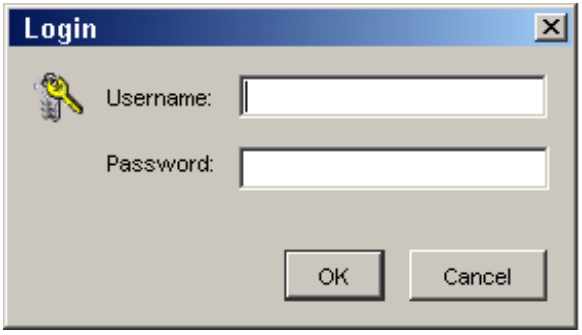


Figure C.6: Login Dialog Box

The switch will disconnect the modem connection if a DSView user does not log in within the time period specified by the authentication time-out value. The default authentication time-out value (120 seconds) may be changed using the Terminal Applications menu. See the installer/user guide for the DSR switch for more information.

The DSR switch will attempt to contact the DSView Server to authenticate the DSView user. If the DSView Server is unavailable, the switch will use its internal database to authenticate the DSView user.

3. Type the username and password to which you wish to connect and then click *OK*. If authentication is successful, the DSR Remote Operations window will appear.

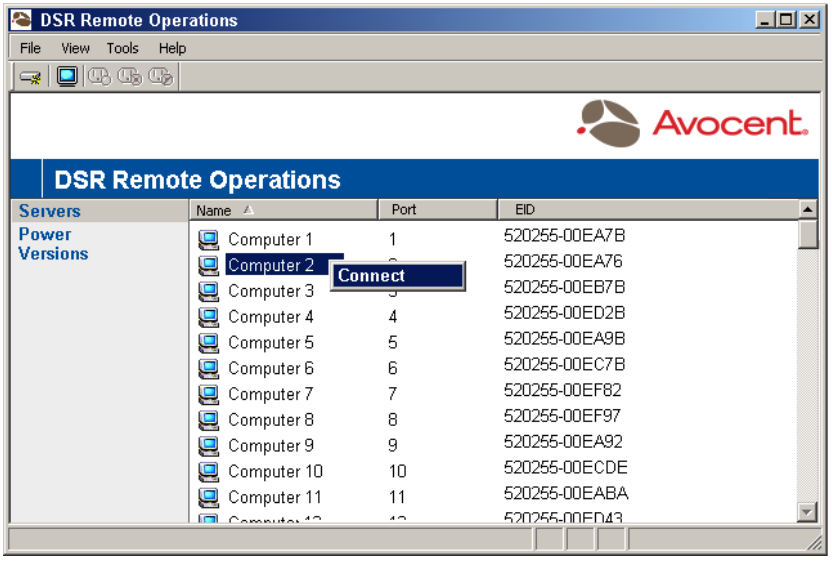


Figure C.7: DSR Remote Operations Window

NOTE: The switch will disconnect the modem connection if there is no activity on the modem connection for the time period specified by the inactivity time-out value. The default inactivity time-out value (15 minutes) may be changed using the Terminal Applications menu. See the installer/user guide for the DSR switch for more information.

Rebooting a switch

NOTE: DSView users with a User level account may not reboot a switch. See *User Groups* on page 19 for information on user access levels.

To reboot the switch:

1. From the menu bar, select *Tools* - *Reboot Appliance*. A confirmation dialog box will appear.
2. Click *Yes* to reboot the switch.

   -or-

   Click *No* to cancel the operation.

Managing servers

Use the Servers view to manage servers attached to the switch. See *Servers view* on page 436 for more information on the Servers view.

To display the Servers view:

From the menu bar, select *View* - *Servers*.

-or-

From the side navigation bar, click *Servers*.

To refresh the Server view:

From the menu bar when the Servers View is displayed, select *View* - *Refresh*.

To connect to a server:

NOTE: DSView users with a User level account may connect to a server only when given access to a switch. See *User Groups* on page 19 for more information.

1. From the Servers view, select a server and select *Tools* - *Connect* from the menu bar.

   -or-

   Select a server and click the *Connect* toolbar button.

   -or-

   Right-click on a server and select *Connect* from the shortcut menu.

   A Video Viewer window will open. See *Using the Video Viewer Window* on page 241 for more information on the Video Viewer.

NOTE: The following operations are unavailable when using the DSR Remote Operations command:

- Sharing (see *Connecting to an existing KVM session* on page 243)
- Stealth connections (see *Connecting to an existing KVM session* on page 243)
- Scan Mode (Enabled when two or more Video Viewer windows are open)
- Macro Creation (Macros - Configure from the Video Viewer window menu bar)
- View Connected Users (View - Connected Users from the Video Viewer window menu bar)

Managing SPC sockets

DSView users with User level account privileges cannot modify the power state of SPC sockets. See *User Groups* on page 19 for more information on user privileges.

Use the Power view to manage SPC sockets attached to the switch. See *Power view* on page 437 for more information on the Power view.

To display the Power view:

From the menu bar, select *View* - *Power*.

-or-

From the side navigation bar, click *Power*.

To refresh the Power view:

From the menu bar when the Power view is displayed, select *View* - *Refresh*.

To power up an SPC socket:

1. From the side navigation bar, select *Power*. A list of SPC sockets attached to the switch will appear in the content area.
2. Select an SPC socket that has not been powered up and select *Tools* - *Power On* from the menu bar.

   -or-

   Select an SPC socket that has not been powered up and click the *Power On* toolbar button.

   -or-

   Right-click on an SPC socket that has not been powered up and select *Power On* from the shortcut menu.

   The SPC socket will power up and the icon for the SPC socket in the content area will change.

To power down an SPC socket:

1. From the side navigation bar, select *Power*. A list of SPC sockets attached to the switch will appear in the content area.
2. Select an SPC socket that has not been powered down and select *Tools* - *Power Off* from the menu bar.

   -or-

   Select an SPC socket that has not been powered down and click the *Power Off* toolbar button.

   -or-

   Right-click on an SPC socket that has not been powered down and select *Power Off* from the shortcut menu.

   The SPC socket will power down and the icon for the SPC socket in the content area will change.

To cycle the power of an SPC socket:

1. From the side navigation bar, select *Power*. A list of SPC sockets attached to the switch will appear in the content area.
2. Select an SPC socket that is powered up and select *Tools* - *Cycle Power* from the menu bar.

   -or-

   Select an SPC socket that is powered up and click the *Cycle Power* toolbar button.

   -or-

   Right-click on an SPC socket that is powered up and select *Cycle Power* from the shortcut menu.

   The SPC socket is powered down, then powered up and the icon for the SPC socket in the content area will change accordingly.

Displaying switch version information

To display switch version information:

From the menu bar, select *View* - *Versions.*

-or-

From the side navigation bar, click *Version*. The versions of the following items will appear in the content area:

- Application
- Boot
- Digital/Application
- Digital/Hardware
- Hardware

To refresh the Versions view:

From the menu bar when the Versions view is displayed, select *View* - *Refresh*.

Exiting DSR Remote Operations

To exit DSR Remote Operations:

From the menu bar, select *File* - *Exit*.

Appendix D: Terminal Emulation

This appendix contains information about the keys, sequences, encoding and decoding for the DSView 3.0 management software Terminal Emulation modes when using the Telnet/SSH applet window. Encode refers to how the Client interface processes typed keys. Decode refers to how the Client interface processes data coming from the target device.

The Terminal Emulation mode may be set by selecting *Options - Session Properties* in the Telnet/SSH applet window and then using the Terminal Emulation drop-down menu in the Session Properties dialog box. See *Changing the Terminal Emulation mode* on page 279 for more information.

VT terminal emulation

The following table lists the VT key and keypad numeric codes. Avocent encodes all applicable keys as numeric; decoding is not supported.

Table D.1: VT Key and Keypad Numeric Codes

Key	Keypad Numeric Code
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
- (dash)	- (dash)
, (comma)	, (comma)
. (period)	. (period)
Enter	Same as Return key

VT100+ terminal emulation

The VT100+ Emulation mode provides compatibility with the Microsoft headless server EMS serial port interface. The DSView software Telnet/SSH applet VT100+ terminal emulation works identically to VT100, with the exception of support for the function keys listed in the following table.

Table D.2: VT100+ Function Key Support

Function	Sequence	Function	Sequence
Home	<Esc> h	F4 **	<Esc> 4
End	<Esc> k	F5	<Esc> 5
Insert	<Esc> +	F6	<Esc> 6
Delete *	<Esc> -	F7	<Esc> 7
Page Up	<Esc> ?	F8	<Esc> 8
Page Down	<Esc> /	F9	<Esc> 9
F1 **	<Esc> 1	F10	<Esc> Ø
F2 **	<Esc> 2	F11	<Esc> !
F3 **	<Esc> 3	F12	<Esc> @

* ASCII, VT52, VT100, VT102, VT220 and VT320 modes send hex 7F when the **Delete** key is pressed.

** VT100, VT102, VT220 and VT320 modes map the **F1**-**F4** keys to the **PF1**-**PF4** keys.

VT102 terminal emulation

VT102 terminal emulation works identically to VT100 with additional support for decoding receive codes as described in the following table.

Table D.3: VT102 Receive Codes

VT102 Receive Code	Action
Delete Character (DHC)	Deletes n characters starting with the character at the current cursor position, and moves all remaining characters left n positions. n spaces are inserted at the right margin.
Insert Line (IL)	Inserts n lines at the line where the cursor is currently positioned. Lines displayed below the cursor position move down. Lines moved past the bottom margin are lost.
Delete Line (DL)	Deletes n lines starting with the line where the cursor is currently positioned. As lines are deleted, lines below the cursor position move up.

VT100 terminal emulation

The following table lists the VT100 special key and control (**Ctrl**) key combinations and indicates Avocent encoding/decoding support, where Yes = supported and No = not supported.

Table D.4: VT100 Special Keys and Control Keys

Keys	Hex Code	Function Mnemonic	Encode/Decode
Return	ØD	CR	Yes/Yes
Linefeed	ØA	LF	Yes/Yes
Backspace	Ø8	BS	Yes/Yes
Tab	Ø9	HT	Yes/Yes
Spacebar	2Ø	(SP)	Yes/Yes
ESC	1B	ESC	Yes/No
Ctrl+Spacebar	ØØ	NUL	Yes/No
Ctrl+A	Ø1	SOH	Yes/No
Ctrl+B	Ø2	STX	Yes/No
Ctrl+C	Ø3	ETX	Yes/No
Ctrl+D	Ø4	EOT	Yes/No
Ctrl+E	Ø5	ENO	Yes/No
Ctrl+F	Ø6	ACK	Yes/No
Ctrl+G	Ø7	BELL	Yes/Yes
Ctrl+H	Ø8	BS	Yes/Yes
Ctrl+I	Ø9	HT	Yes/Yes
Ctrl+J	ØA	LF	Yes/Yes
Ctrl+K	ØB	VT	Yes/No
Ctrl+L	ØC	FF	Yes/No
Ctrl+M	ØD	CR	Yes/No
Ctrl+N	ØE	SO	Yes/No
Ctrl+O	ØF	SI	Yes/No
Ctrl+P	1Ø	DLE	Yes/No
Ctrl+Q	11	DC1 or XON	Yes/No
Ctrl+R	12	DC2	Yes/No

Table D.4: VT100 Special Keys and Control Keys (Continued)

Keys	Hex Code	Function Mnemonic	Encode/Decode
Ctrl+S	13	DC3 or XOFF	Yes/No
Ctrl+T	14	DO4	Yes/No
Ctrl+U	15	NAK	Yes/No
Ctrl+V	16	SYN	Yes/No
Ctrl+W	17	ETB	Yes/No
Ctrl+X	18	CAN	Yes/No
Ctrl+Y	19	EM	Yes/No
Ctrl+Z	1A	SUB	Yes/No
Ctrl+[	1B	ESC	Yes/No
Ctrl+\	1C	FS	Yes/No
Ctrl+]	1D	GS	Yes/No
Ctrl+^	1E	RS	Yes/No
Ctrl+_	1F	US	Yes/No

The following table lists the VT100 ANSI mode and cursor keys for set and reset modes. Encoding and decoding is supported for all the cursor keys listed.

Table D.5: VT100 ANSI Set and Reset Mode Cursor Keys

Cursor Key	Mode Reset	Mode Set
Up	Esc [A	Esc O A
Down	Esc [B	Esc O B
Right	Esc [C	Esc O C
Left	Esc [D	Esc O D

The following table lists the VT100 PF1-PF4 key definitions. Encoding of each listed key is supported; decoding is not applicable.

Table D.6: VT100 PF1-PF4 Key Definitions

Key	Code Sequence
F1	Esc [O P
F2	Esc [O Q
F3	Esc [O R
F4	Esc [O S

The following table lists the ANSI mode control sequences for VT100 terminal emulation and indicates Avocent encoding/decoding support, where Yes = supported and No = not supported.

Table D.7: VT100 ANSI Mode Control Sequences

Control Sequence	Definition	Encode/Decode
Esc [Pn; Pn R	Cursor Position Report	No/No
Esc [Pn D	Cursor Backward	No/Yes
Esc [Pn B	Cursor Down	No/Yes
Esc [Pn C	Cursor Forward	No/Yes
Esc [Pn; Pn H	Cursor Position	No/Yes
Esc [Pn A	Cursor Up	No/Yes
Esc [Pn c	Device Attributes	No/No
Esc # 8	Screen Alignment Display	No/Yes
Esc # 3	Double Height Line - Top Half	No/No
Esc # 4	Double Height Line - Bottom Half	No/No
Esc # 6	Double Width Line	No/No
Esc Z	Identify Terminal	No/No
Esc =	Keypad Application Mode	No/No
Esc >	Keypad Numeric Mode	No/No
Esc [Ps q	Load LEDs	No/No
Esc 8	Restore Cursor	No/Yes
Esc [<sol>; <par>;	Report Terminal Parameters <nbits>; <xspeed>; <rspeed>; <clkmul>; <flags>x	No/No
Esc [<sol> x	Request Terminal Parameters	No/No
Esc 7	Save Cursor	No/Yes
Esc [Pn; Pn r	Set Top and Bottom Margins	No/No
Esc # 5	Single Width Line	No/No
Esc [2; Ps y	Invoke Confidence Test	No/No
Esc [Ps n	Device Status Report	No/Yes
Esc [Ps J	Erase in Display	No/Yes
Esc [Ps K	Erase in Line	No/Yes

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc H	Horizontal Tabulation Set	Yes/Yes
Esc [Pn; Pn f	Horizontal and Vertical Position	No/Yes
Esc D	Index	No/Yes
Esc E	Next Line	No/Yes
Esc M	Reverse Index	No/Yes
Esc c	Reset to Initial State	No/No
Esc [Ps; Ps;..;Ps 1	Reset Mode	No/No
Esc (A	Select Character Set GØ U.K.	No/No
Esc) A	Select Character Set G1 U.K	No/No
Esc (B	Select Character Set GØ ASCII	Yes/Yes
Esc) B	Select Character Set G1 ASCII	Yes/Yes (Limited Support)
Esc (Ø	Select Character Set GØ Spec. Graphics	Yes/Yes (Limited Support)
Esc) Ø	Select Character Set G1 Spec. Graphics	Yes/Yes (Limited Support)
Esc (1	Select Character Set GØ Alt. Character ROM Standard Character Set	No/No
Esc) 1	Select Character Set G1 Alt. Character ROM Standard Character Set	No/No
Esc (2	Select Character Set GØ Alt. Character ROM Special Graphics	No/No
Esc) 2	Select Character Set G1 Alt. Character ROM Special Graphics	No/No
Esc [Ps;..; Ps m	Select Graphic Rendition	No/No
Esc Ps;..;Ps h	Set Mode	No/No
Esc [Ps g	Tabulation Clear	No/No
Esc [Ps;Ps;..; Ps m	Character Attributes 7 - Reverse Video On	No/Reverse Video only
Esc [K or Esc [Ø K	Erase from cursor to end of line	No/Yes
Esc [1 K	Erase from beginning of line to cursor	No/No
Esc [2 K	Erase entire line containing cursor	No/No
Esc [J or Esc [Ø J	Erase from cursor to end of screen	No/Yes
Esc [1 J	Erase from beginning of screen to cursor	No/No
Esc [2 J	Erase entire screen	No/No
Esc [Ps;Ps;..Ps q	Programmable LEDs	No/No
Esc [Pt; Pb r	Scrolling Region	No/No

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc [g or Esc [Ø g	Clear tab at current column	Yes/Yes
Esc [3 g	Clear all tabs	Yes/Yes
Esc [2 Ø h	Modes to Set - New Line - Only supports Linefeed/New Line Column mode wraparound	No/Yes
Esc [2 Ø l	Modes to Reset - Linefeed - Only supports Linefeed/New Line Column mode wraparound	No/Yes
Esc [? 1 h	Modes to Set - Cursor Key Mode Appl.	No/No
Esc [? 1 l	Modes to Reset - Cursor Key Mode Cursor	No/No
Esc [? 2 l	Modes to Reset VT52	No/No
Esc [? 3 h	Modes to Set - 132 columns	No/No
Esc [? 3 l	Modes to Reset - 8Ø columns	No/No
Esc [? 4 h	Modes to Set - Smooth Scroll	No/No
Esc [? 4 l	Modes to Reset - Jump Scroll	No/No
Esc [? 5 h	Modes to Set - Reverse Screen Mode	No/No
Esc [? 5 l	Modes to Reset - Normal Screen Mode	No/No
Esc [? 6 h	Modes to Set - Relative Origin Mode	No/No
Esc [? 6 l	Modes to Reset - Absolute Origin Mode	No/No
Esc [? 7 h	Modes to Set - Wraparound On	No/No
Esc [? 7 l	Modes to Reset - Wraparound Off	No/No
Esc [? 8 h	Modes to Set - Auto Repeat On	No/No
Esc [? 8 l	Modes to Reset - Auto Repeat Off	No/No
Esc [? 9 h	Modes to Set - Interlace On	No/No
Esc [? 9 l	Modes to Reset - Interlace Off	No/No
Esc [6 n	Report Cursor Position - Invoked by	No/No
Esc [P1; Pc R	Report Cursor Position - Response is	No/No
Esc [5 n	Status Report - Invoked by	No/No
Esc [Ø n	Status Report - Response is terminal OK	No/No
Esc [3 n	Status Rpt - Response is terminal not OK	No/No
Esc [x or Esc [Ø c	What are you? Invoked by	No/Yes
Esc [? 1; Ps c	What are you? Response is	No/Yes
Esc c	Reset	No/No

Table D.7: VT100 ANSI Mode Control Sequences (Continued)

Control Sequence	Definition	Encode/Decode
Esc # 8	Fill screen with Es	No/Yes
Esc [2; Ps y	Invoke Test(s)	No/No

VT220 terminal emulation

The following table lists the keystroke mapping (encoding) for VT220 emulation.

Table D.8: VT220 Encoding

VT220 Keyboard	PC Keyboard	VT220 Keyboard Byte Sequence
Delete	Delete	Øx7F
Left Arrow	Left Arrow	Esc [D
Right Arrow	Right Arrow	Esc [C
Up Arrow	Up Arrow	Esc [A
Down Arrow	Down Arrow	Esc [B
Keypad /	Keypad /	/
Keypad *	Keypad *	*
Keypad -	Keypad -	-
Keypad +	Keypad +	+
Keypad .	Keypad .	.
Keypad Ø..9	Keypad Ø..9	Ø..9
F1	F1	Esc O P
F2	F2	Esc O Q
F3	F3	Esc O R
F4	F4	Esc O S
F6	F6	Esc [1 7 ~
F7	F7	Esc [1 8 ~
F8	F8	Esc [1 9 ~
F9	F9	Esc [2 Ø ~
F10	F10	Esc [2 1 ~
F11	F11	Esc [2 3 ~
F12	F12	Esc [2 4 ~
F13	Ctrl - F5	Esc [2 5 ~
F14	Ctrl - F6	Esc [2 6 ~
F15	Ctrl - F7	Esc [2 8 ~
F16	Ctrl - F8	Esc [2 9 ~
F17	Ctrl - F9	Esc [3 1 ~
F18	Ctrl - F10	Esc [3 2 ~
F19	Ctrl - F11	Esc [3 3 ~
F20	Ctrl - F12	Esc [3 4 ~

The following table lists the DSView software decoding for VT220 terminal emulation.

Table D.9: VT220 Decoding

VT220 Keyboard Function	VT220 Keyboard Byte Sequence
Index	Esc D
New Line	Esc E
Reverse Index	Esc M
Escape	Esc O
Save cursor and attributes	Esc 7
Restore cursor and attributes	Esc 8
Up Arrow	Esc [A
Down Arrow	Esc [B
Right Arrow	Esc [C
Left Arrow	Esc [D
Set cursor to home position	Esc [H
Set cursor to home position	Esc [f
Character attributes	Esc [m
Erase from cursor to end of line	Esc [K
Erase from cursor to end of screen	Esc [j
Programmable LEDs	Esc [q
What are You?	Esc [c
Set Mode	Esc [?
Delete 1 Character	Esc [P
Insert 1 Line	Esc [L
Delete 1 Line	Esc [M
Up Arrow	Esc [O A
Down Arrow	Esc [O B
Right Arrow	Esc [O C
Left Arrow	Esc [O D
Fill Screen with Es	Esc # 8
Up Arrow amount specified by Pn	Esc [Pn A
Down Arrow amount specified by Pn	Esc [Pn B
Right Arrow amount specified by Pn	Esc [Pn C
Left Arrow amount specified by Pn	Esc [Pn D
Erase parts of current line	Esc [Pn K
Erase parts of current screen	Esc [Pn J
Direct Cursor Addressing	Esc [Pn H
Direct Cursor Addressing	Esc [Pn f
Programmable LEDs	Esc [Pn q
Scrolling Region	Esc [Pn r
Clear tabs	Esc [Pn g

Table D.9: VT220 Decoding (Continued)

VT220 Keyboard Function	VT220 Keyboard Byte Sequence
Device status report	Esc [Pn n
What are you?	Esc [Pn c
Sat Mode	Esc [Pn h
Delete Pn Characters	Esc [Pn P
Insert Pn Characters	Esc [Pn L
Delete Pn Lines	Esc [Pn M
Insert Character	Esc [Pn @
Erase Pn Characters	Esc [Pn X

VT52 terminal emulation

The following table lists the DSView software keystroke mapping (encoding) for VT52 terminal emulation.

Table D.10: VT52 Encoding

VT52 Keyboard	PC Character Sequence	VT52 Keyboard Byte Sequence
Delete	Delete	Øx7F
Up Arrow	Up Arrow	Esc A
Down Arrow	Down Arrow	Esc B
Right Arrow	Right Arrow	Esc C
Left Arrow	Left Arrow	Esc D
Shift-F1	PF1	Esc P
Shift-F2	PF2	Esc Q
Shift-F3	PF3	Esc R
Shift-F4	PF4	Esc S

The following table lists the DS Management Software decoding for VT52 terminal emulation.

Table D.11: VT52 Decoding

VT52 Keyboard Function	VT52 Keyboard Byte Sequence
Cursor Up	Esc A
Cursor Down	Esc B
Cursor Right	Esc C
Cursor Left	Esc D
Cursor Home	Esc H
Reverse Linefeed	Esc I

Table D.11: VT52 Decoding (Continued)

VT52 Keyboard Function	VT52 Keyboard Byte Sequence
Erase to end of screen	Esc J
Erase to end of line	Esc K

The following table lists the VT52 and ANSI auxiliary keypad definitions. Encoding of each listed keypad key is supported; decoding is not applicable.

Table D.12: VT52 ANSI Mode Auxiliary Keypad Definitions

Keys	Keypad Numeric Code	VT52 Keypad	ANSI Keyboard
0	0	ESC ? p	ESC O p
1	1	ESC ? q	ESC O q
2	2	ESC ? r	ESC O r
3	3	ESC ? s	ESC O s
4	4	ESC ? t	ESC O t
5	5	ESC ? u	ESC O u
6	6	ESC ? v	ESC O v
7	7	ESC ? w	ESC O w
8	8	ESC ? x	ESC O x
9	9	ESC ? y	ESC O y
- (dash)	- (dash)	ESC ? m	ESC O m
, (comma)	, (comma)	ESC ? l	ESC O l
. (period)	. (period)	ESC ? n	ESC O n
ENTER	Same as RETURN key	ESC ? m	ESC O m

VT320 terminal emulation

The following table lists the DS Management Software keystroke mapping (encoding) for VT320 terminal emulation.

Table D.13: VT320 Encoding

VT320 Keyboard	PC Character Sequence	VT320 Keyboard Byte Sequence
Escape Key (ESC)	Esc	Øx1B
F1	F1	Esc O P
F2	F2	Esc O Q
F3	F3	Esc O R
F4	F4	Esc O S
F6	F6	Esc [1 7 ~
F7	F7	Esc [1 8 ~
F8	F8	Esc [1 9 ~
F9	F9	Esc [2 Ø ~
F10	F10	Esc [2 1 ~
F11	F11	Esc [2 3 ~
F12	F12	Esc [2 4 ~
F13	Ctrl - F5	Esc [2 5 ~
F14	Ctrl - F6	Esc [2 6 ~
F15	Ctrl - F7	Esc [2 8 ~
F16	Ctrl - F8	Esc [2 9 ~
F17	Ctrl - F9	Esc [3 1 ~
F18	Ctrl - F10	Esc [3 2 ~
F19	Ctrl - F11	Esc [3 3 ~
F20	Ctrl - F12	Esc [3 4 ~
Insert	Insert	Esc [1 ~
Home	Home	Esc [2 ~
Delete	Delete	Hex 7 F
End	End	Esc [5 ~
Up Arrow	Up Arrow	Esc [A

Table D.13: VT320 Encoding (Continued)

VT320 Keyboard	PC Character Sequence	VT320 Keyboard Byte Sequence
Down Arrow	Down Arrow	Esc [B
Left Arrow	Left Arrow	Esc [D
Right Arrow	Right Arrow	Esc [C

The following table lists the DS Management Software decoding for VT320 terminal emulation.

Table D.14: VT320 Decoding

VT320 Keyboard Function	VT320 Keyboard Byte Sequence
Index	Esc D
New Line	Esc E
Reverse Index	Esc M
Escape O	Esc O
Save cursor and attributes	Esc 7
Restore cursor and attributes	Esc 8
Up Arrow	Esc [A
Down Arrow	Esc [B
Right Arrow	Esc [C
Left Arrow	Esc [D
Set cursor to home position	Esc [H
Set cursor to home position	Esc [f
Character Attributes	Esc [m
Erase from cursor to end of line	Esc [K
Erase from cursor to end of screen	Esc [J
Programmable LEDs	Esc [q
What are You?	Esc [c
Set Mode	Esc [?
Delete 1 Character	Esc [P
Insert 1 Line	Esc [L
Delete 1 Line	Esc [M
Up Arrow	Esc O A
Down Arrow	Esc O B
Right Arrow	Esc O C

Table D.14: VT320 Decoding (Continued)

VT320 Keyboard Function	VT320 Keyboard Byte Sequence
Left Arrow	Esc O D
Fill Screen with Es	Esc # 8
Up Arrow amount specified by Pn	Esc [Pn A
Down Arrow amount specified by Pn	Esc [Pn B
Right Arrow amount specified by Pn	Esc [Pn C
Left Down Arrow amount specified by Pn	Esc [Pn D
Erase parts of current line	Esc [Pn K
Erase parts of current screen	Esc [Pn J
Direct Cursor Addressing	Esc [Pn H
Direct Cursor Addressing	Esc [Pn f
Programmable LEDs	Esc [Pn q
Scrolling Region	Esc [Pn r
Clear tabs	Esc [Pn g
Device status report	Esc [Pn n
What are you?	Esc [Pn c
Sat Mode	Esc [Pn h
Delete Pn Characters	Esc [Pn P
Insert Pn Lines	Esc [Pn L
Delete Pn Lines	Esc [Pn M
Insert Character	Esc [Pn @
Erase Pn Characters	Esc [Pn X

Glossary

Access Control

Refers to mechanisms and policies that restrict access to computer resources.

Active Directory

Active Directory is the directory service included with Microsoft Windows 2000 and later versions of Windows operating systems. It extends the features of previous Windows-based directory services and contains new features that ease the navigation and management of large amounts of information, which may generate savings for both Administrators and end users. Active Directory is secure, distributed, partitioned and replicated. It is designed to work well in any size installation, from a single server with a few hundred objects to thousands of servers and millions of objects.

Avocent DS Authentication Protocol (ADSAP)

A protocol used for authentication and authroization of DSR switches and CPS serial over IP appliance target device sessions in the DSView software. This is an SSL based protocol that uses X.509 certificates.

Avocent Install and Discover Protocol (AIDP)

A protocol used to install out-of-box appliances that do not have an IP address assigned, and to discover existing appliances that have an address assigned. This UDP based protocol is not encrypted and only public information is passed over this link. AIDP uses UDP port 3211.

NOTE: Port 3211 is non-configurable.

Applet

A program written in the Java language that runs within a web browser.

ASMP (Avocent Secure Management Protocol)

A protocol used to securely configure managed appliance settings. This TCP based protocol uses an SSL encrypted communications link. AMSP uses TCP port 3211.

NOTE: Port 3211 is non-configurable.

Auditing

The process of tracking DSView user activities by recording selected types of events in the audit log of the DSView Server.

Authentication Server

An authentication server is a network device that provides authentication services.

Authentication

The validation of DSView user log in information. Authentication is used to enforce selective permission to access resources or to perform an operation.

Authorization

The process of granting or denying access to a resource. Most computer security systems are based on a two-step process. The first stage is authentication, which ensures that a user is who they claim to be. The second stage is authorization, which allows the user access to various resources based on the user's identity.

Avocent Video Session Protocol (AVSP)

A protocol used to transfer keyboard, video and mouse information between an DSR switch and a remote Video Viewer. AVSP operates over SSL encrypted TCP links. TCP/IP ports 8192 and 2068 are used by default, but may be configured to different port numbers.

Browser Session

A type of target device session in which the target device contains a web server. The DSView Client connects directly to the target device using a web browser. No DSR switches or CPS appliances are used for Browser sessions.

Cascade Device

A device that connects between a DSR switch or CPS appliance and a target device, or connects to a DSR switch or CPS appliance and is not in itself a target device. Examples of cascade devices are a cascade switch and an SPC power control device.

Cascade Switch

An analog KVM switch that is connected to a DSR switch port or DSRIQ. A cascade switch expands the number of connections allowed on a DSR switch if the DSR switch supports the cascade protocol.

Certificate Authentication

Certificate authentication is the process of authenticating with a digital certificate.

CPS Appliance

An Avocent managed appliance that provides a Telnet server for accessing serially attached devices over a standard TCP/IP connection. Model numbers include the CPS800, CPS1600, CPS810, CPS1610 and CPS1620 appliance.

Database Replication

Database replication is the process of distributing and keeping in sync the same database to all DSView Servers in a DSView System. Database replication ensures that all database changes made at the Hub DSView Server or at any of the Spoke DSView Servers are replicated to all DSView Servers in the DSView System.

Dynamic Host Configuration Protocol (DHCP)

An Internet protocol used to automate the configuration of computers using TCP/IP. DHCP can be used to do the following:

- Automatically assign IP addresses.
- Deliver TCP/IP stack configuration parameters, such as the subnet mask and default router.
- Provide other configuration information, such as printer addresses.

Digital Certificate

An attachment to an electronic message used for security purposes. The most common use of a digital certificate is to verify that a user sending a message is who they claim to be, and to provide the receiver with the means to encode a reply.

An individual wishing to send an encrypted message applies for a digital certificate from a Certificate Authority (CA). The CA issues an encrypted digital certificate containing the applicant's public key and a variety of other identification information. The CA makes its own public key readily available through print publicity or perhaps on the Internet.

The recipient of an encrypted message uses the CA's public key to decode the digital certificate attached to the message, verifies it as issued by the CA and then obtains the sender's public key and identification information held within the certificate. With this information, the recipient can send an encrypted reply.

The most widely used standard for digital certificates is X.509.

DSR Switch

Avocent's digital KVM switch series of products that allow KVM signals to be transmitted over a standard TCP/IP connection.

DSRIQ

A smart module that uses CAT 5 cabling to attach a target device to a DSR switch. The DSRIQ significantly reduces cable bulk in the rack and is well suited for high-density installations.

DSView Client

A customer provided PC with an installed web browser. The web browser accesses the DSView Server software and provides the user interface (that is, the DSView 3.0 Explorer) for the DSView system. The DSView 3.0 Explorer enables DSView users to access and administer the DSView Server, managed appliances and target devices.

DSView Client Session

A single HTML session between the DSView Client web browser and the DSView Server. For each DSView Client session, the DSView user must log into the DSView Server. Multiple DSView Client sessions can exist between a given DSView Client PC and the DSView Server. This occurs when the DSView user launches another web browser window and connects to the same DSView Server.

NOTE: A DSView Client session may contain multiple target device sessions.

DSView Server

A customer provided PC on which the DSView software is installed.

DSView Software

An Avocent software component installed on a PC. The DSView software provides the IP-based centralized services required for management of managed appliances and target devices, including centralized authentication, access control, auditing, monitoring, license management and so on. DSView Clients interact with the DSView software using the DSView 3.0 Explorer.

DSView System

All components required to provide DSView functionality, including the DSView Server, DSView Client, managed appliances and target devices.

NOTE: An SNMP manager and external authentication servers, which are optional components and outside the DSView system, may also be added to provide additional functionality.

Encryption

The translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to decrypt the file. Unencrypted data is called plain text. Encrypted data is referred to as cipher text.

There are two main types of encryption:

- Asymmetric encryption (also called public-key encryption)
- Symmetric encryption.

External Authentication Server

Optional component(s) outside of the DSView system that enable you to select an authentication method. The DSView Server brokers authentication requests (LDAP, RADIUS and so on).

FLASH

A special type of EEPROM that can be erased and reprogrammed in blocks instead of one byte at a time. The BIOS and applications of many modern applications are stored on a flash memory chip so that it may easily be updated (if necessary).

Hotkey

A keystroke that may be assigned and used to cause a specific action or set of actions to occur within a user interface. By assigning the action(s), the keystroke's normal operation (for example, pressing F1 to open help) is superseded.

Hub DSView Server

A DSView Server that is responsible for maintaining the master copy of the DSView System database. Only one DSView Server in a DSView system can be configured as the Hub DSView Server. Spoke DSView Servers in a DSview System perform database replication with the Hub DSView Server. The Hub DSView Server acts as the traffic cop for database replication between itself and all of the other DSView Servers in a DSView System.

NOTE: The Hub DSView Server and a Spoke DSView Server offer the same DSView software functionality to a DSView user. The distinction of "Hub" or "Spoke"only has to do with the database replication role the server plays and not with the DSView software functionality the server offers to the DSView user.

Hypertext Markup Language (HTML)

A markup language used to create hypertext documents that are portable from one platform to another on the World Wide Web (WWW). HTML files are ASCII text files with embedded codes (markup tags) to indicate formatting and hypertext links. Web browsers interpret and display HTML documents.

Hypertext Transfer Protocol (HTTP)

The underlying protocol by which WWW clients and servers communicate. HTTP is an application-level, generic, stateless, object-oriented protocol for distributed, collaborative, hypermedia information systems. A feature of HTTP is the typing and negotiation of data representation, allowing systems to be built independently of the data being transferred.

Integrated Windows Authentication

Previously known as Windows NT Challenge/Response (NT/CR) or NT LAN Manager (NTLM), Integrated Windows Authentication is a secure form of web browser authentication using either the Kerberos V5 authentication protocol or its own challenge/response authentication protocol.

This authentication method works best in an intranet environment where the types of web browsers that your network DSView users access may be controlled. If you are already logged on to Windows, Integrated Windows Authentication uses your logon information for authentication, so it will not prompt for a username and password (known as Single Sign-On (SSO)).

Integrated Windows Authentication only works with Internet Explorer and does not work with an HTTP proxy. Integrated Windows Authentication must be explicitly enabled under the Advance Internet Options dialog box of Internet Explorer 6.0 SP1 and above.

Java

An environment for developing and deploying distributed, scalable, enterprise-level applications designed to run on networks, the Internet, and the WWW. The Java platform consists of a set of services, application program interfaces (APIs), and protocols that provide functionality for developing multitiered, web-based applications.

KVM

An abbreviation for Keyboard Video Mouse.

KVM Session

A type of target device session in which the target device contains a KVM connection (typically a server). KVM sessions are connected through a DSR switch. Tiered analog switches may also be part of the connection. A KVM Video Viewer connection exists between the DSView Client and the target device.

Local Port

The physical connection through which a DSR switch or CPS appliance can be accessed without accessing a network connection.

For a DSR switch, the local port is typically the KVM connection at which a keyboard, mouse and monitor can be connected directly to the DSR switch. An onscreen display may be invoked to control the DSR switch and access switched KVM ports.

For a CPS appliance, the local port is typically the serial connection at which a terminal can be connected directly to the CPS appliance. A command line interface (CLI) is used to control the CPS appliance and access switched serial ports.

Lightweight Directory Access Protocol (LDAP)

A set of protocols for accessing information directories. LDAP is based on standards contained in the X.500 standard, but is significantly simpler. Unlike X.500, LDAP supports TCP/IP, which is necessary for Internet access. Because LDAP is a simpler version of X.500, it is sometimes called X.500-lite.

Managed Appliance

Managed appliances include DSR switches, CPS appliances, EVR1500 environmental monitor and control appliances and generic appliances (such as routers).

Management Information Base (MIB)

A database of objects that can be monitored by a network management system (NMS). SNMP uses standardized MIB formats that allow any SNMP tools to monitor any device defined by an MIB.

Network Address Translation (NAT)

An Internet standard that enables a local-area network (LAN) to use one set of IP addresses for internal traffic and a second set of addresses for external traffic. A NAT box located between the LAN and Internet makes all necessary IP address translations.

NAT serves three main purposes:

- Provides a type of firewall by hiding internal IP addresses.
- Enables a company to use more internal IP addresses. Since they're used internally only, there's no possibility of conflict with IP addresses used by other companies and organizations.
- Allows a company to combine multiple ISDN connections into a single Internet connection.

NAT Device

A network address translation (NAT) device enables the use of more internal IP addresses than the number that are assigned. A NAT device provides IP addresses that are not exposed outside of the device. The DSView software will not support network configuration where the DSView Server and CPS appliances or DSR switches are separated by a NAT device.

On-Screen Configuration and Activity Reporting (OSCAR)

A tool that is built in to Avocent appliances that allows a DSView user connected to the local KVM port to view and change settings in a DSR switch or CPS appliance. OSCAR also allows a local user to connect to target devices.

Point to Point Protocol (PPP)

A set of industry-standard framing and authentication protocols included with Windows NT Remote Access Service to ensure interoperability with third-party remote access software. PPP negotiates configuration parameters for multiple layers of the OSI (Open Systems Interconnection) model.

Secure Hypertext Transfer Protocol (HTTPS)

An extension to the HTTP protocol that supports sending data securely over the WWW.

Secure Sockets Layer (SSL)

A protocol that supplies secure data communication through data encryption and decryption. SSL enables private communications over networks by using a combination of public key cryptography and bulk data encryption.

Serial Session

A type of target device session in which the target device contains a serial connection (typically a Linux server TTY port or a Router) and is connected through a CPS appliance. A Telnet/SSH applet connection exists between the DSView Client and the CPS appliance. The CPS appliance converts the Telnet information to serial information.

Server

A computer or device on a network that manages network resources. For example:

- A file server is a computer and storage device dedicated to storing files. Any user on the network can store files on the server.
- A print server is a computer that manages one or more printers.
- A network server is a computer that manages network traffic.
- A database server is a computer system that processes database queries.

Servers are often dedicated, meaning that they perform no other tasks besides their server tasks. However, on multiprocessing operating systems, a single computer can execute several programs at once. In this case, a server may refer to the program that is managing resources rather than the entire computer.

Session

When used alone, a session refers to a target device session. See the definition of Target Device Session for details

Site

A location that contains a managed appliance, DSView Server or both.

Simple Network Management Protocol (SNMP)

A set of protocols for managing complex networks. SNMP works by sending messages to different parts of a network. SNMP-compliant devices, called agents, store data about themselves in MIBs and return this data to the SNMP requesters.

SNMP Manager

An optional component (outside of the DSView system) that enables the monitoring of many cross-platform devices using SNMP information. SNMP managers are also called network management systems (NMS).

SPC

The SPC is an Avocent cascade device that allows the remote controlling of target device power using a serial connection.

Spoke DSView Server

A DSView Server that is responsible for initiating database replication with the Hub DSView Server. A Spoke DSView Server sends its database changes to the Hub DSView Server and receives database changes from the Hub DSView Server.

NOTE: The Hub DSView Server and a Spoke DSView Server offer the same DSView software functionality to a DSView user. The distinction of "Hub" or "Spoke"only has to do with the database replication role the server plays and not with the DSView software functionality the server offers to the DSView user.

Target Device

A wide range of data center components such as servers and routers that an Administrator is able to virtually manage through the DSView software.

Target Device Session

A target device connection through a KVM, Serial, Telnet or web browser. Target device sessions do not include power management functionality.

Transmission Control Protocol (TCP/IP)

TCP is one of the main protocols in TCP/IP networks. The IP protocol deals only with packets. TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and that packets will be delivered in the same order in which they were sent.

Telnet

A terminal emulation program for TCP/IP networks such as the Internet that is commonly used to remotely control web servers. The Telnet program runs on your PC and connects your PC to a server on the network. Commands may then be entered through the Telnet program and will be executed as if being entered directly on the server console, which enables you to control the server and communicate with other servers on the network. To start a Telnet session, you must log in to a server by entering a valid username and password.

Telnet Session

A type of target device session in which the target device supports Telnet and the DSView Client connects directly to the target device using Telnet. A generic appliance is used for Telnet sessions. A DSR switch or CPS appliance is not used for Telnet sessions.

Telnet/SSH Applet

A software component that provides the user interface needed to display a remote target device through Serial over IP sessions.

Tiered Switch

A cascade switch. See the definition of Cascade Switch.

Unit

A generic term that refers to either a target device or a managed appliance. For example, the Unit List may contain both target devices and managed appliances.

User Datagram Protocol (UDP)

Abbreviated UDP, a connectionless protocol that runs on top of IP networks like TCP. Unlike TCP/IP, UDP/IP provides very few error recovery services, offering instead a direct way to send and receive datagrams over an IP network. UDP is primarily used for broadcasting messages over a network.

Video Viewer

A software component that provides the user interface needed to display a remote target device through KVM over IP sessions.

Virtual Private Network (VPN)

A means of implementing a private network on a public network such as the Internet. By encrypting data and assigning addresses, the impression is given to networks at each end of the VPN that they are connected by a private physical network instead of across a public network.

Wide Area Network (WAN)

Typically refers to a network that is distributed at multiple sites and connected by a relatively slow link between the sites. The WAN is frequently implemented using a VPN on the Internet.

Web Application (Webapp)

Groups of server-side Web resources that make up an interactive online application. The web resources include Java servlets, JavaServer Pages™ (JSPs), static documents (such as HTML documents), and applets that can be deployed in a DSView Client web browser. Web applications must run in the context of a web application server such as the DSView Server.

Web Application Server (WAS)

Software that runs on a server that is capable of executing web applications. The WAS software typically contains or works with a web (HTTP) server.

Web Server

A computer equipped with server software to respond to HTTP requests, such as requests from a web browser. A web server uses the HTTP protocol to communicate with clients on a TCP/IP network.

X.509

The most widely used standard for defining digital certificates. X.509 is an International Telecommunications Union (ITU) Recommendation, which means that the standard has not yet been officially defined or approved. As a result, companies have implemented the standard in different ways. For example, both Netscape and Microsoft use X.509 certificates to implement SSL in their Web servers and web browsers. An X.509 Certificate generated by Netscape may not be readable by Microsoft products, and vice versa.

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